ASPIRE

Achievements in Sports, Projects, Industry, Research and Education

Monthly Newsletter

Department of Mechanical Engineering

Volume 12 Issue 4 April 2022

Sri Sivasubramaniya Nadar College of Engineering

Rajiv Gandhi Salai, Kalavakkam, Chennai, Tamil Nadu, India

SSN

From The HOD's Desk...

Dear all,

It gives us immense pleasure to bring you the latest edition of our department new letter – Aspire.

We profile Bandura who was awarded the Grawemeyer Prize, the equivalent of the Nobel prize in psychology for his ground-breaking work in self-efficacy and cognitive theory.

The highlight of this month was the Leadership conclave organized by SNF at the Noida campus, which was a conglomeration of people drawn from all pillars of the SNF giving us an opportunity to network and explore new learnings.

In an activity filled month, the department organized an international conference on processing and characterization of materials, a national conference on sustainable energy resources for thermal systems, a six-day faculty development programme on design, optimization, and manufacture of materials, with invited keynote speakers and conference chairs drawn from eminent institutions like IIT, NIT, VIT, with an enthusiastic participation of researchers and students from India and abroad. We hosted a team from Ashok Leyland and presented them with the research capabilities of our faculty in automotive technologies, which we feel will bring home some mutually fulfilling collaborative work.

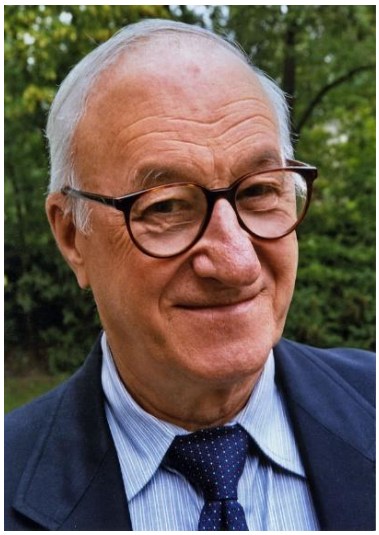
We are glad to note that our alumni Karthik D is now with Goldman Sachs as VP, Risk modelling and Pranav Prakash is a retail industry manager at Google, Africa, occupying elitist positions in marquee companies. Placements continue to move up and many of our current final year students are doing their internships with premier companies like Amazon, McKinsey, Caterpillar. Kurian John is winning laurels for us through his sojourn with the SSN music club.

Its been a happening month and we are glad that we have been able to put things together for our readers. We hope April will also be a month that will keep us rejuvenated and refreshed to do more.

Best wishes,

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

Albert Bandura: Cementer of self-belief



"People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided."

Bandura was born in Mundare, Alberta, an open town of roughly four hundred inhabitants, as the youngest child, and only son, in a family of six. The limitations of education in a remote town such as this caused Bandura to become independent and self-motivated in terms of learning, and these primarily developed traits proved very helpful in his lengthy career.

Bandura's introduction to academic psychology arrived by a fluke; as a student with little to do in early mornings, he took a psychology course in order to pass the time and became passionate about the subject. In 1953 Bandura accepted a one-year instructorship at Stanford University, where he quickly secured a professorship. In 1974 he was named the David Starr Jordan Professor of Social Science in Psychology, and two years later he became chairman of the psychology department.

Bandura was the first to demonstrate that self-efficacy, the belief in one's own capabilities, influences what individuals choose to do, the amount of effort they put into doing it, and the way they feel as they are doing it. Bandura also discovered that a person's environment, cognition, and behaviour all interact to determine how that person functions, as opposed to one of those factors playing a dominant role.

In 1961 Bandura carried out his famous Bobo doll experiment, which demonstrated that children could learn behaviours through the observation of adults. In the study, researchers physically and verbally abused a clown-faced inflatable toy in front of preschool-age children, which led the children to later mimic the behaviour of the adults by attacking the doll in the same fashion. Subsequent experiments in which children were exposed to such violence on videotape yielded similar results.

Bandura was awarded the the Grawemeyer Prize, the equivalent of the Nobel prize in psychology in 2008 for his ground-breaking work in self-efficacy and cognitive theory.

Campus Update

SHIV NADAR FOUNDATION LEADERSHIP CONCLAVE IN SNU NCR DELHI

INTERNAL HACKATHON

SSN hosted the 12 hours Internal Hackathon at institutional level to select the top 15 teams to submit the ideas for SIH 2022 Grand Finale of World's Biggest Open Innovation Model i.e. Smart India Hackathon 2022 an initiative by All India Council for Technical Education (AICTE) under the aegis of Ministry of Human Resource Development (MHRD) and in collaboration with Inter-Institutional Inclusive Innovations Center (i4c), MyGov, Persistent Systems, and MIC. Total teams: 58.

SSN MUSIC CLUB ACHIEVEMENTS

SSN Music Club (SMC) has won the following prizes in the **various events listed below**:

AGNITRAYA 8.0 - IIM KASHIPUR:

Golden Mic - Online Music Competition:
1st prize: Anirudh Sethuraman, III Year (EEE)
Band-it Battles:
Winner: 120 dB
Band Members:
1. HSJ Sahana, III Year (IT)
2. Soorya S, IV Year (EEE)
3. Vishaq J, IV Year (IT)
4. Kurian John, IV Year (Mech)
5. Shashank Panda, III Year (CSE)
6. Pradeep Ganesh, IIII Year (CSE)
7. Nikhil Rajkumar, II Year (ECE)

NAAD 22 - BIT, MESRA:

Dhun(Solo Instrumental):
1st Prize: Nikhil Rajkumar, II Year (ECE)
Euphony(Western Solo Singing):
3rd Prize: Soorya S, IV Year (EEE)
Mandra Mayhem(Battle of Bands):
1st Prize: 120 dB
Band Members:
1. HSJ Sahana, III Year (IT)
2. Aarya Raghavan, III Year (BME)
3. Shashank Panda, III Year (CSE)
4. Nikhil Rajkumar, II Year (ECE)
5. Kurian John, IV Year (Mech)

Nishaad(Overall Champion from Dhun, Alankaar, Euphony, Raagashree events):
3rd prize: Nikhil Rajkumar, II Year (ECE)

AUDACITY '22 - IIM UDAIPUR:

Sur Sargam(Solo Singing):
2nd Prize: Anirudh Sethuraman, III Year (EEE)
Instrumental Waves(Solo Instrumental):
1st Prize: Nikhil Rajkumar, II Year (ECE)

Congratulation to all the performers!

Department Update

Placement Update

YES, THE NUMBER OF PLACED IN MECH 2022 PASSING OUT HAS SURPASSED "137"

Company Name: FourKites
Job Type: Dream
Job Role: Product Support
CTC: INR 8,60,000/-
It is heartening to mention that only students of our dept. could make it to the final rounds and final selection as well even though the candidates participating were across SSN for this lucrative dream offer. As usual the competition was stiff. I don't know what secret formula our students had to grab this wonderful job!! Sheer brilliance!! Congratulations to the Two!! To their credit, they already have got placed in CTS!

Student Details:

1. Santhosh Kumar V
2. Nithish C

Company Name: Chegg India
Job Type: Regular (Others)
Job Role: Subject Matter Expert
CTC: INR 3,60,000/-
Student Details:

1. Tarun P
2. Avulapati Sairam Chowdary

Company Name: JSW
Job Type: Core
Job Role: Graduate Engineer Trainee
CTC: INR 8,00,000/-

Student Details:

1. Adhithya K

Three III Year Mech Girls have got selected for the Prestigious DoW Chemicals internship.

Student Details:

1. Anna Mathew
2. Kavya Velusamy
3. Sreya Mary Thomas

It has been a routine since last 4 years as regards DoW Chemicals internships and connected offers for the Girl students of our dept. Records show that our Students are well placed in DoW Chemicals with a great CTC around 8-9 LPA post the internships. It's a great learning opportunity for the interns in core areas of Mech at DoW. I join you in congratulating the Three Girl Students of III Year.

The internship is likely to commence from 1st June and will go on till 12th July.

This year, across SSN, Chemical -4, EEE-1 and Mech-3 got this internship. Hopefully all the three from Mech may get a Job offer post the internship.

HEARTY CONGRATULATIONS

International Journal Publication - SCI /Clarivate Indexed

Amalesh, T., & Narasimhan, N. L. (2022). Liquid cooling vs hybrid cooling for fast charging lithium-ion batteries: A comparative numerical study. Applied Thermal Engineering, 118226. Impact Factor: 5.295

Bright RJ, Selvakumar G, Sumathi M. Prediction of dry sliding wear behaviour of China clay particles reinforced AA6082 matrix composites using Response Surface Methodology and analysis of the worn surfaces. Surface Topography: Metrology and Properties. Mar 2022. Impact Factor: 2.038

Lakshminarayanan, A. K., Ramachandran, S., Bakkiyaraj, M., & Rajabharathi, B. (2022). Harnessing Friction Stir Back Extrusion process to fabricate microtubes from as-cast Mg–4Zn–0.7 Zr-1.6 RE magnesium alloy. Surface Topography: Metrology and Properties..

Impact Factor: 2.08

External Funded Project Applied

Project Title: Designing novel multi-layered materials using accumulative roll bonding for electromagnetic shielding, light weighting, high temperature and ballistic protection applications, PI: Dr. Anirudh V.K.; Total Budget (INR): Rs. 32,40,050; Funding Agency: DST-SERB: SRG

Project Title: "Experimental Investigations on Hybrid Airconditioning System for Thermal & Indoor Air Quality Comfort" ,PI: Dr. A. S. Ramana /Associate Professor/ Mechanical Engineering Total Budget (INR): Rs. 4.98 Lakhs. Funding Agency: TNSCST

Project Title: Design, development and testing of novel minichannel cold plates for lihtium-ion battery cooling, PI: Dr. N. Lakshmi Narasimhan /ASP/Mech, Total Budget (INR): 4,90,000. Funding Agency: TNSCST. Date of Submission: 8.3.2022

Dr. S. Vijayan- /Professor/Mech submitted a research proposal entitled "Study of Plithogenic Graph in Management Decisions " to DST- Matrics Scheme

Project title: Design and Development of a Farm Management System for Integrating Farmers, Vendors and Consumers to ensure an efficient supply chain mechanism, PI: Dr. K.S. Vijay Sekar/Prof & Head/ Mech; Co-PI: Dr G. Satheesh Kumar/ASP/MECH, Dr R. Vimal Sam Singh/ASP/MECH and Dr N. Bhalaji /ASP/IT. Total Budget: Rs. 4,85,000. Funding agency : TANSCST under Science and Technology Project scheme."

Project title: Optimization of Flow Stress Model Parameters for Numerical Analysis in Machining using a Novel Reverse Engineering Technique,PI: Dr. K.S. Vijay Sekar/Prof & Head/ Mech. Total Budget: Rs. 6,00,000. Funding agency: SERB under MATRICS Scheme.

Faculty Write-Up

One Day National Conference on *Sustainable Energy Resources for Thermal Systems (SERTS 2022-*18th March, 2022)

Conveners


Dr. S. Rajkumar


Dr. R. Prakash


Dr. B. Jayakishan


Mr. D. Ebenezer

Co - Conveners


Dr. Micha Premkumar


Dr. P. Dhamodharan


Dr. T. Vinoth


Dr. S. A. Srinivasan

Aim of the conference:

The second national conference on "Sustainable Energy Resources for Thermal Systems" (SERTS2022) is conducted to bring together various researchers, academicians, and industrial experts under one roof to discuss about the recent developments on sustainable energy resources for thermal systems. This conference explored the novel research in all aspects of research problems pertaining to sustainable energy resources for various thermal applications such as IC engines, energy conversion systems, HVAC systems, solar energy systems, fuel cells and alternate fuels etc., The participants shared and gained knowledge in the broad field of thermal engineering.

Conference Info: After receiving the manuscripts, a blind peer review process was initiated with academicians participating in the review. The review comments were sent to the authors and asked to submit within a deadline. In the end of the process, 26 manuscripts were finally received and 20 abstract is accepted for oral presentation in the conference.

Conference day:

The function started with the invocation song and was followed by a welcome address by convenor, Dr. S. Rajkumar. Then the inaugural function was graced by our Principal, Dr. V. E. Annamalai, and Vice-Principal, Dr. S. Radha. Then our HOD, Dr. K. S. Vijay Sekar, expressed the importance of energy and its sustainability in his address. Then the inaugural function ended with a vote of thanks by Dr. B. Jayakishan. This was followed by the keynote speeches and then the parallel sessions thereafter.

Keynote Speakers:

Dr. G. Kumaresan
Associate Professor
Institute for Energy Studies
College of Engineering Guindy,
Anna University,
Guindy, Chennai

Dr. P. R. Suresh
Professor &
Principal
Mechanical Engineering
NSS College of Engineering
Palakkad-Kerala

Keynote Lecture Title

Essential of Cooling the Solar PV Module

Keynote Lecture Title

Effect of Surface Texturing on Performance of Multicrystaline Silicon Photovoltoic cell

Conference sessions:

The paper presentation was divided into two parallel sessions. The sessions were judged by one Chair and One Co chair. All the participants received their certificates upon completion of their respective sessions.

International Conference on Processing and Characterization of Materials (ICPCM-2022) 7th and 8th of March, 2022 [Virtual mode]

The inauguration of the conference was held on 7th March, 9.00 am in virtual mode. The program commenced with invocation song by Shwetha. R (2nd year B section student) followed by a talk by our Principal Dr. V. E. Annamalai, Vice-Principal Dr. Radha and HOD Dr. K.S. Vijay Sekar. They emphasized on the

Conveners

Dr. K. Babu | Dr. M. Dhananchezian | Dr. K. Jayakumar

Co-conveners

Dr. R. Damodaram

Dr. S. Santosh

Dr. V.K. Anirudh

importance of organizing conferences and highlighted that participating in conferences would strengthen the research community. The chief guest of the conference Dr. B.S. Murty, Director, IIT Hyderabad, inspired the researchers by advocating them on how to involve themselves in research activities.

Prof. Dr. B. S. Murty, Director, IIT-Hyderabad

The conference theme was on 2 different tracks. 1) Processing of Materials and 2) Novel materials and their Characterization. We are grateful to the chief guest Prof. B.S. Murty for readily accepting our invitation to be the chief guest and he delivered an exciting keynote speech on 'The exciting world at the bottom: Probing materials at small scale'. Another keynote speech on 'Enabling Additive Manufacturing Adoption Through Standardization' by Dr. Khalid Rafi, Senior Lead in Additive Manufacturing, ASM International on 8th, March. Overall, Dr. Khalid Rafi made the session very interesting. It was great to hear about influence, priorities, development & comparison to international standards in the same field. The abstracts have come from various parts of this globe. Within India, abstracts have come from institutions of repute such as IIT Madras, NIT Trichy, NIT Surathkal, NIT Silchar, SRM University and SASTRA University, to name a few. The conference received more than 276 abstracts and 202 abstracts have been shortlisted after reviews based on the relevance and theme of this conference and tightly scheduled in 16 parallel sessions. About 202 were selected for oral presentation during the Conference. The best paper in each session as well as cash awards in each

Dr. Khalid Rafi, Senior Lead, Additive Manufacturing Program Development, ASTM International - Singapore

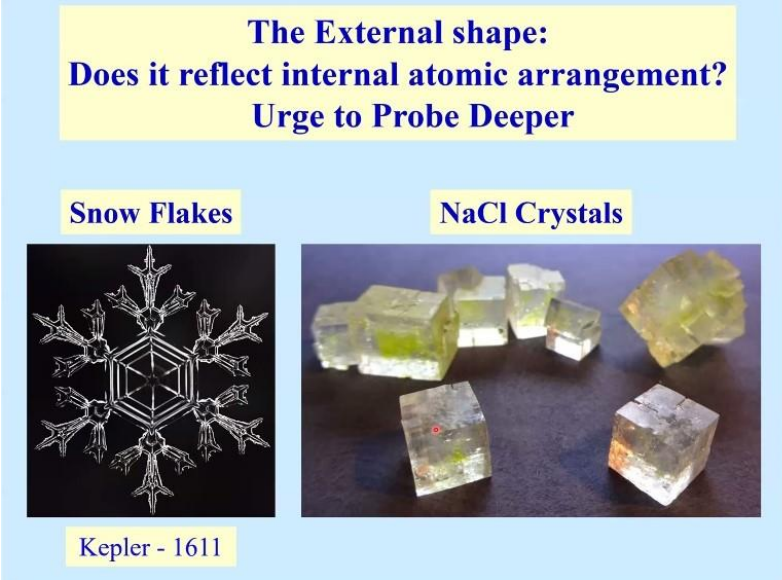
Secretaries

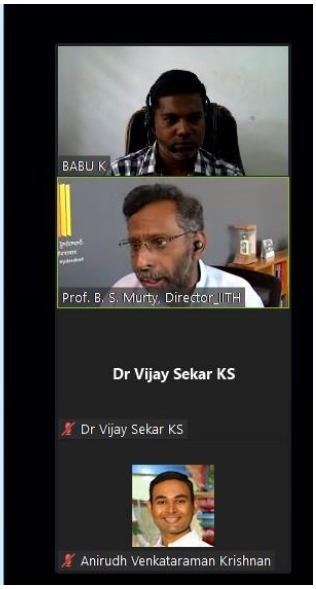
Dr. R. Raieswari

Dr. Divya Zindani

track were awarded based on the jury's input. More in the link: https://drive.google.com/file/d/1zdgZxJtAv1m2cHjTSvtFdKtybAqKjNDq/view?usp=sharing

Snapshot of Keynote Session By Dr. B. S. Murty, Director, IIT Hyderabad





Report on Online National Workshop on Emerging Trends in Energy Efficiency Organized by Department of Mechanical Engg., SSN College of Engineering, Kalavakkam

Dr A S Ramana, Asso. Prof. & Dr. B. Jayakishan, Asst. Prof. organized Workshop on Emerging Trends in Energy Efficiency on 11th February 2022. Dr. A S Ramana, Asso. Prof. delivered welcome address. Dr. K.S. Vijay Sekar, HOD Mechanical Engineering delivered special address on the occasion.

Mr. Kiran Ananth, Principal Counsellor, on federation of Indian Industry, Hyderabad elaborated various energy efficiency schemes undertaken by both central and state Government. Economic and Environmental benefits of energy efficiency implementation in industries and buildings was highlighted. Mr. Kiran Ananth leads the energy efficiency and climate change activities at CII.

Mr. S. Karthikeyan, Principal Counsellor, CII IGBC, Hyderabad delivered keynote lecture on Net Zero Energy Buildings. In his address he focused on measures that can be adopted to enhance building energy efficiency by better design and operation of buildings. He is leading the Green Building certification services in CII and has been instrumental in designing and

developing the GreenPro – Indian Ecolabel, which aims at facilitating green product market transformation in India.

Professors, Research Scholars, and students from various technical institutions actively participated in the workshop. Dr. B. Jayakishan, Asst. Prof. proposed vote of thanks.

Shiv Nadar Foundation Leadership Conclave 2022 March 11-12, 2022, SNU NCR campus

Dr. K.S. Vijay Sekar, Prof & Head, writes on his experiences during his visit to the marquee event.....

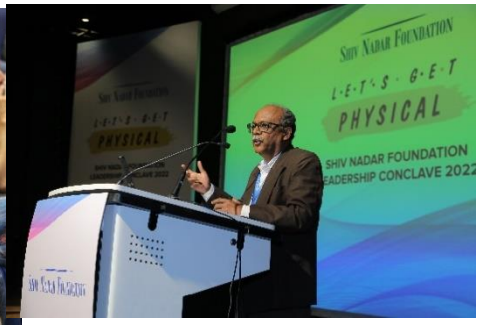
The two-day event had already begun in my mind even before it unfolded at the beautiful SNU campus in Noida. Being there for the first time and having heard of the conclaves of the past, I was opening my mind to absorb as much as one could during the event. But whatever one could conjure up, about the campus can never match up with the experience of seeing, the sight a treat to the sore eyes, a thing of beauty, a joy forever. Be it the well curated lawns, the biodiversity park, the well-maintained spaces, the world class infrastructure, the sprawling sporting grounds, SNU Noida was the cynosure of our eyes out there.

What stood out, apart from the alluring physical spaces, was the hospitality of the people who serenade the campus day in and day out, from the housekeeping staff to the gardener to the people who drove us around, each of them a vital cog in creating a campus full of warmth. The event itself was well thought out, giving ample scope for one-to-one interactions at the department level, scheduling well intended workshops for pursuing collaborative opportunities amongst varied and diverse pillars of the SNF structure – HCL Tech, SSN, SNU Chennai, SNU NCR, Vidya Gyan, HCL Tech Bee, THT, SNS. We had the opportunity to interact with the Mechanical Department HOD and a few faculty

members and learnt about the research facilities and happenings in the department and agreed to work on a mutually fulfilling basis.

The bliss of participating in an entertaining, yet competitive cricket match, rubbing shoulders with young and old alike was like icing on the cake. The stand-up comedy show was a much-needed relief away from the routines. The next day was a day when we were seated in the main auditorium and had a glimpse of the inner workings of the various pillars of the SNF, a repository of information on the activities, achievements, and the road ahead. Roshni Nadar set the tone for the day as she laid emphasis on why this edition was planned in physical mode, given the insulated lives we have had to live in the past two years due to the pandemic, she hit the right notes on the freedom of being together and the joy and opportunities a conclave like this could bring about, seeped in positivity. The event culminated with a photograph of the attendees in full vigour in the presence of our Founder chairman Shiv Nadar, a person who continues to be a towering inspiration to the entire SNF family.

The event was rounded off with a live talk by famous climate change researcher, Mike Berners Lee who talked about the perils of climate change and why it is the right time to act to save the planet. Each of us received a copy of his book aptly titled - There is no Planet B. And then we were entertained by Krish Srikanth, eminent cricketer and world cup hero, who regaled the audience with his leadership insights, that was a nice blend of boldness in the face of adversity, and he drew a parallel between Founder Chairman Shiv Nadar and World cup winning captain Kapil Dev, in the way he took up challenges to create a world class organisation like HCL just as Kapil did to win the 1983 world cup.



As we left the campus, we left with the feeling of visiting a place that was as traditional as it was modern, a place that filled our hearts with memorable moments!!

FDP on Design, Optimization and Manufacture of Materials 07-03-2022 to 12-03-2022

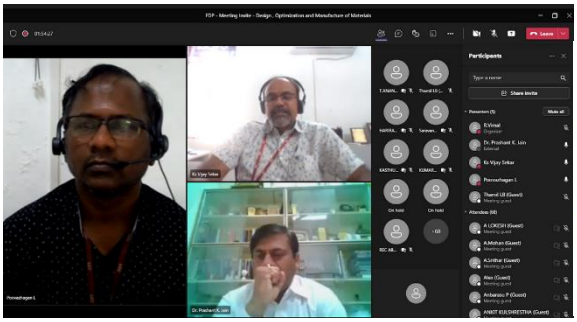
Convener: Dr. K. S. Vijay Sekar

Coordinators: Dr.K.Rajkumar, Dr. S. Sureshkumar, Dr. L. Poovazhagan and Dr. R. Vimal Samsingh

This program was organized in virtual mode with more than 270 registered participants. Totally, 14 lectures were arranged in six days, of which 9 lectures were from eminent professors from IITs, NITs, VIT etc and 5 lectures from SSNCE.

The FDP covered the various aspects of design, manufacturing of advanced materials and optimization methods. The topics of the FDP included additive manufacturing, FEA, advanced machining methods, NDT methods, tribological aspects of materials, smart materials, bio composites and advanced composite materials. All the sessions were very much interactive and received very good feedback from the participants. A gist of the feedback received is encapsulated below:

- Very enlightening sessions. Every day very meticulously planned and organized. Truly benefited from the experience.
- It was a very good session for development of a student as well as a faculty member.
- Good Sessions, eminent and dynamic speakers.
- Very meticulously planned and organized. Very beneficial to me. Thanks for the opportunity and the experience.
- Great effort in this pandemic... Thanks for all professors who share their knowledge in various fields.
- All the sessions were wonderful and keynote speaking on the topics. Each expert has delivered valuable information in FDP.
- Please conduct similar FDPs in future. It will be very helpful for research work.



The external resource persons included:

- ✓ Dr. Prashant Kumar Jain, Indian Institute of Information Technology, Jabalpur
- ✓ Dr P. Ramkumar, Indian Institute of Technology, Madras.
- ✓ Dr. Dhanashri M. Joglekar, Indian Institute of Technology, Roorkee.
- ✓ Dr. Mamilla Ravi Sankar, Indian Institute of Technology, Tirupati.

- ✓ Dr. M. Uthayakumar, Kalasalingam University.
- ✓ Dr. M. Senthil Kumar, Vellore Institute of Technology.
- ✓ Dr. Ravi Pratap Singh, Assistant Professor, Dr. B. R. Ambedkar National Institute of Technology.
- ✓ Dr. A. Arockiarajan, Professor, Indian Institute of Technology, Madras.
- ✓ Dr. M. Ramesh, KIT-Kalaignar Karunanidhi Institute of Technology.

Ashok Leyland Team visits the Mechanical Engg. Department

On 24th March 2022, a four-member team from Ashok Leyland visited our department, to check out the capabilities of the faculty members in automotive engineering research and find out the facilities we possessed in this niche area. The team was received by the HOD, Prof. K.S. Vijay Sekar. Profs. S. Suresh Kumar, S. Rajkumar, R. Vimal Sam Singh and N. Lakshmi Narasimhan gave brief presentations on areas related to the automotive industry such as crashworthiness and occupant safety, alternate fuel engines, sensors for braking and cooling of Lithium-Ion batteries which is part of their current research work. Profs. R. Prakash and B. Jayakishan were also part of the presenting team. The team had earlier visited the EEE and ECE departments. Post lunch at CDC, a discussion was initiated by the Principal Prof. VE Annamalai, who was instrumental in bringing the team to SSN. Dr. V. Rajini, HOD EEE, Dr. P. Vijayalakshmi, HOD ECE and Dr. T. Jothi Basu, Placements and Dr V.S. Nagarajan, Assoc. Prof EEE were part of the discussion panel from SSN. The Leyland team comprising of Mr. S Srinivasan – Head of Brakes, Steering ends, Lab & TQBM, Field quality, Mr. P. Balaji – Head of Field Quality, Mr. Gopala Krishnan - Head of Engine vertical, Field quality and Mr. S Ganesh - Head of Suspension & FBVS vertical, Field quality, probed on the research capabilities of SSN and shared the areas on which they were seeking collaborations on a mutually fulfilling basis. The meeting ended on a positive note, with some possibilities of networking and consultancy.

FDP on Entrepreneurship and Start-Ups

Write up by Dr. Arun Prakash C

I attended an FDP on Entrepreneurship and Start-Ups jointly organised by Centre for Entrepreneurship, Anna University and Entrepreneurship Development Institute of India,

Ahmedabad from 28-02-2022 to 12-03-2022. The program started with the session on motivation for entrepreneurship on day 1 and finished with a session on banking perspectives for start-up on day 12. Various verticals of entrepreneurship such as Business Opportunity Identification, Design Thinking, Barriers to Entrepreneurship, Opportunity for research in entrepreneurship, Right prototype and prototype right, IPR and Technology commercialization, Entrepreneurial case studies, Business Plan preparation and Business pitching were covered during the 12-day program. Resource persons were the faculty from EDII and founders of companies associated with start-ups. At the end of every day there was a breakout session where we were grouped as a team and given tasks related to entrepreneurship. We also had an opportunity to visit the Makers Lab at Anna University. The program ended with an assessment and valedictory function on 12-03-2022.

I sincerely thank the Management, Principal and Head of the Department for giving me an opportunity to attend this program.

International Conference Participated

Dr. K. Jayakumar, Associate Professor, presented the following four papers with his PhD scholars (S. Senthurvaishnavan, S. Balamurugan, P. Naveen Kumar) and passed out UG students (MANIKANDAN L, ABDUL RAHMAN PJ, ARAVINTH N and KARTHIKEYAN A) in the International Conference on Processing and Characterization of Materials (ICPCM 2022) conducted by Department of Mechanical Engineering Sri Sivasubramaniya Nadar College of Engineering, Chennai on 7th and 8th March 2022.

1. Effect of end milling parameters on mrr and hardness variation of aa7075.
2. Fsw on aa5083 h-111 and aa5754 h-111 dissimilar plates with scandium intermetallic layer.
3. Effect of er5183 filler rod on the metallurgical and mechanical properties of tig-welded aa5083 and aa5754.
4. Influence of tool pin shapes on microstructure and mechanical behaviour of friction stir welding of dissimilar aluminium alloys.

Dr.M.Nalla Mohamed presented a paper tilted 'IMPROVING THE CRASHWORTHINESS OF CIRCULAR TUBE ENERGY ABSORBER BY INTRODUCING DIFFERENT GAUSSIAN CURVATURES ON SURFACE" in the International Conference on Processing and Characterization of Materials organized by Department of Mechanical Engineering, SSN College of Engineering during 7-8 March 2022

Dr.M.Nalla Mohamed presented a paper titled "EVALUATION OF JOHNSON-COOK CONSTITUTIVE MATERIAL MODEL PARAMETERS FOR ADDITIVELY MANUFACTURED ALSi10Mg ALLOY TEST SPECIMENS' in the international conference on Processing and Characterization of Materials(ICPCM-2022) organized by the Department of Mechanical Engineering,SSN college of Engineering, during 7-8 March 2022.

Dr.M. Nalla Mohamed along with UG students R., Mohammed Tanvir and M. Raja Meenakshi presented a paper titled " INVESTIGATION ON DEFORMATION AND CRUSH BEHAVIOUR OF BIO-INSPIRED FOAM-FILLED ALUMINIUM TUBES UNDER AXIAL COMPRESSION LOADING" in the international conference on Processing and Characterization of Materials(ICPCM-2022) organized by the department of Mechanical Engineering, SSN College of Engineering during 7-8 March 2022.

Dr.M. Nalla Mohamed along with UG students Vengadesh.V and Yuva Shanker. M presented a paper titled " NUMERICAL STUDY ON ENERGY-ABSORBING MECHANISMS AND STRUCTURAL CRASHWORTHINESS OF LATERALLY CRUSHED THIN-WALLED FML TUBES FILLED WITH ALUMINUM FOAM" in the international conference on Processing and Characterization of Materials(ICPCM-2022) organized by the department of Mechanical Engineering, SSN College of Engineering during 7-8 March 2022.

Dr. Anirudh VK, Dr. Christina Lim, Evaluating the slurry erosion rates of uniaxially stressed stainless steel 304, ICPCM 2022, SSN College of Engineering, 07-08 March 2022.

Dr. S.A.Srinivasan presented a paper titled "SYNTHESIS OF NANO CRYSTALLINE MAGNESIUM COMPOSITES WITH NIOBIUM PENTOXIDE AND STEARIC ACID AS PCA FOR HYDROGEN STORAGE APPLICATIONS" in 1st International virtual conference on Advances in Automobile, Manufacturing and Mechanical Engineering (ICAAMME'22) organized by Dept. of Automobile Engg., SRM Easwari Engineering College, Chennai during March 11, 2022. (Coauthors: K. Sathiyalingam and Song-Jeng Huang, NTU - Taiwan)

Moreover, he presented a paper titled ""Preparation and Characterisation of Hybrid Lanthanum Zirconate Nanofluids for Heat Transfer Applications"" co-authored by J.Subramani, P.Mayilsamy, S. Vigneswaran and G.Thiyagesan in the Second National Conference on Sustainable Energy Resources for Thermal Systems [SERTS 2022] organized by the Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam on 18th March 2022."

External Recognition

Dr. K. Jayakumar, Associate Professor, attended the first DC meeting for a PhD candidate (registered in Anna University, Chennai) at Department of Mechanical Engineering, Anna University, Trichy campus as DC member on 26.02.2022 through online.

Dr. Satheesh Kumar Gopal was a Jury member for the Innovation challenge Finals, on 18th March 2022 between 10.00 AM to 1.00PM in the Automation and Robotics Competition (ARC) Techfest held during 17th - 19th March 2022 and organized by Centre for Automation and Robotics (ANRO), School of Mechanical Sciences, Hindustan Institute of Technology and Science, Padur.

Dr. Divya Zindani, Assistant Professor, delivered a webinar on "Sustainable Innovations" at Dept. of Mechanical Engineering, College of Engineering, Pandharpur, Solapur, Maharashtra on 09/03/2022

Dr. LakshminarayananAK, delivered a lecture on "Fusion and solid state welding based additive manufacturing" in a 6 days Entrepreneurship Development Programme (EDP) on 'Flexible 3D Printing operation & Prototype development' organized by NIT Arunachal Pradesh in collaboration with North East Centre for Technology Application and Reach (NECTAR) from 21st to 25th February, 2022 through online mode

Dr. Arunprakash, Session Chairperson in the event "Enrichment Enhancement and Empowerment" at Meenakshi Sundararajan Engineering College held on 21st March 202Dr. Alphin M S, served as a session Chair for the 4th International Conference on Advances in Mechanical Engineering (ICAME2022)" from 24-26 March 2022 in the Department of Mechanical Engineering at SRM Institute of Science and Technology, Chennai.

Dr. Alphin M S served a an external expert for the comprehension doctoral committee meeting for Ph.D scholar Mr.KR. Arun Prasad, on 17.3.2022 (Thursday), SRM IST, Chennai

Dr A. S. Ramana, Asso. Prof. /Mech. Engg. Chaired a Technical Session in SRMIST 4th International Conference on Advances in Mechanical Engineering (ICAME 2022) on 25.03. 2022.

"Dr. B. Anand Ronald, acted as a Session Chair for the 4th International Conference on Advances in Mechanical Engineering (ICAME2022)" scheduled from 24-26 March 2022 in the Department of Mechanical Engineering at SRM Institute of Science and Technology (SRM IST), Kattankulathur, Chennai, India through online mode."

Workshop/Webinars organized

Dr. KL. Harikrishna, Dr. S R Koteswara Ro and Dr. A K Lakshminarayan conducted One day Workshop on 'Recent Advancements in Metal 3D Printing"" (RAMP-2022) on 12.03.2022.Around 70 participants from various educational institution were attended the workshop.

Dr. KL. Harikrishna , Industrial Visit has been organized for our PG Students at TI Diamond Chain, Ambattur on 17.03.2022. Report on Industrial visit drafted by the student Mr. Suresh krishna is attached

Dr A S Ramana, Asso. Prof. & Dr. B. Jayakishan, Asst. Prof. organized Online National Workshop on Emerging Trends in Energy Efficiency on 11th February 2022.

Workshop/FDP Attended

Dr. B. Anand Ronald, attended the One-day workshop on "Recent Advancements in Metal 3D Printing"" conducted online by SSN College of Engineering on 12 March 2022. Anirudhvk, Modelling of Thermal Systems and Thermal Management of Electric Vehicles using Cyle Tempo Arunprakash.C, Attended 2-Week Faculty Development Program on "Entrepreneurship & Start-Ups" held from 28th February 2022 to 12th March 2022 jointly organized by CED Anna University and EDII Ahmedabad.

Scholar Info

Dr.B. Anand Ronald, conducted the First Doctoral Committee meeting for Mr. S. Annamalai, Full Time Ph.D Scholar on 08.03.2022 and Mr. B. Anand, Part Time Ph.D Scholar on 11.03.2022

Dr. K. Jayakumar, Associate Professor, conducted synopsis seminar (Seminar – II) and 3rd DC meeting for his PhD scholar Mr. K. Shine (1519299711-Part Time) on 09.03.2022.

Dr. KL. Harikrishna, Associate Professor / Mechanical conducted the first DC meeting for his part time research scholar, Mr. K. Rajkumar on 16.03.2022

Dr.R.Prakash, ASP/Mech conducted the first DC meeting for his full-time research scholar, Mr.A Surya on 03.03.2022

Dr.R.Prakash, ASP/Mech conducted the first DC meeting for his full-time research scholar, Mr. Vidhya Sagar D S on 03.03.2022

Dr.K.S.Vijay Sekar, Prof/Mech attended the DC meeting for a part time research scholar of Anna University, registered under Dr N. Arun Kumar, SJCE on 10.03.2022

Non-Teaching Staff Activities

Mr.J. Ponmuthuraja Machinist Grade-I (Sr.grade) has participated in a National workshop (Virtual mode) on “Biomaterials and Their Corrosion Behaviour” organized by the Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (SSN) College of Engineering, Chennai on 12th February 2022.

Mr. Bala sundaram Palanisamy - completed Alison course of Title:

- Diploma in marine Diesel engines Completed Date: 12.03.2022 - Saturday
- Decision support systems for operations management Completed Date: 17.03.2022 - Thursday

Mr. Bala sundaram Palanisamy - participated one day workshopICPCM-22 international conference-Complete Conference on 07. Mar .2022 by DR.K.Babu.

Mr. Bala sundaram Palanisamy - Lab assistant participated one day workshop Second national conference on “Sustainable Energy Resources for Thermal Systems (SERTS 2022)""on 18th March, 2022 by the SERTS 2022 Team"

Nagarajan S/ Lab Instructor attended the National Conference on “Sustainable Energy Resources for Thermal Systems (SERTS 2022)" Organized by the Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering Kalavakkam on 18th March, 2022.

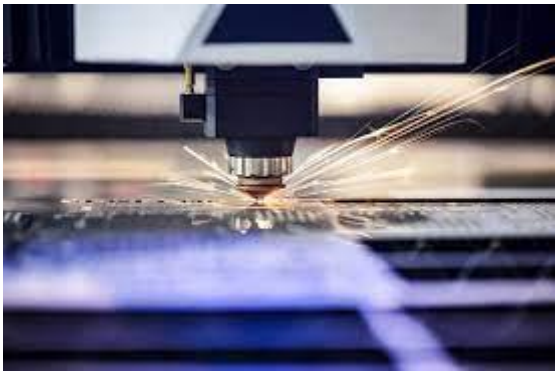
Nagarajan S/ Lab Instructor involved in sorting out the hard copy of End Semester Answer papers of November/ December 2021, during 25 - 26 February 2022.

Student Write-Up

S.NO	DATE	ACTIVITY DONE DURING THE MONTH
		SECOND YEAR
1)	01/02/22-09/02/22	***Sriganesh L*** • Industrial visit on CNC LASER MACHINE
2)	25/01/22-25/02/22	***Sanjeeviraj*** • Industrial visit on CNC LASER MACHINE
		THIRD YEAR
3)	19/03/2022	***Mohamed Gani M R*** • Completed Solidworks(3d CAD Modelling software) online course in Udemy and received CSWA certification
		FOURTH YEAR
4)	10/03/2022	***Tarun.P*** • Placed in Chegg India
5)	10/03/2022	***Pranesh R*** • Placed in L1 Supply network
6)	17/02/2022	***Nandita*** • "Mettle is the Annual National Level Technical Symposium conducted by the department of Metallurgical and Materials Engineering, NIT Trichy. Participants were provided with a problem statement dataset using which they must extract the appropriate data and generate a Machine Learning model. The field under consideration will be that of High Entropy Alloys
7)	13/03/2022	***Adhithya K*** • Placed in Core company - JSW groups

8)	13/03/2022	***Nithish C*** • Placed in Fourkites India Pvt. Ltd.
9)	23/02/2022	***Senthil Kumar.S*** • Placed in Qspiders. It is a best-in-class learning solutions organization headquartered in India's IT capital, Bangalore. We offer a wide range of courses in software testing and are official partners of the ISTQB. A finishing schools in many ways, the institute provides young job aspirants the perfect launch-pad to build a rewarding career in the growing IT sector. From its humble beginnings, QSpiders has exponentially grown to be the world's largest software testing training organization spread across countries. At QSpiders, we ensure training is imparted by specialists with proven subject matter expertise and who have spent over a decade in their area of specialization. Our faculty are highly competent, skilled, and dedicated to giving their best towards the professional development of our students. Besides training, we also provide placement assistance to our students and most of the big corporates in the corporate world hire our trained talent. It is indeed our pleasure to have placed over thousands of jobseekers in various IT firms across India over the years with an aim to place thousands more! Building competency into over 5000 students a month, QSpiders is where talent meets opportunity, and we believe your search for the dream job or the dream professional ends here.
11)	18/02/2022	***Gundepudi V Surya Sashank*** • Received admission from NCSU, Stony Brook, McMaster University. Course is Financial Mathematics.
12)	15/02/2022	***Tharun VS*** • Admit for Fall 22 in Clemson University
13)	18/03/2022	***Santhosh Kumar V*** • Placed in FourKites India Private Limited
14)	15/03/2022	***Sivadharshan V*** • Placed in Cognizant Technology Solutions

Sanjeeviraj and Sriganesh L , II-Year writes...



We attended a one-month internship on CNC laser machine. We learnt about the CNC laser machine and their R&D Works Software (R.v.8) and learn about some other machines like Marking Machine and Heating Machine.

First, we divide this intern duration for four weeks:

Week-1: In our first week we learnt about the working principle of the CNC laser machine. How the laser will be produced and what is the purpose of using the chiller & air compressor in the CNC laser machine in theoretically and as well as practically.

Week-2: Then we are started working in the CNC laser machine to cut the acrylic MDF, PVC, etc. it was a good experience for the first time operating the CNC laser machine in a practical way.

Week-3: Coming to our 3rd week, we are learning about the R&D works software how to design the pattern, download the files & operating the CNC laser machine using the R&D works software.

Week-4: Last week we learnt the working principles & Specifications of marking machine & heating machine. Then we are allowed to run those machines.

- Through this internship we gained knowledge with equal working experience.

Anna Mathew , III-Year writes...

Dow is a materials science leader committed to delivering innovative and sustainable solutions for customers in packaging, infrastructure, and consumer care.

They take pride in their successful cultivation of an inclusive culture and as a part of this goal, each year they give students at SSN an opportunity to experience the atmosphere at Dow by selecting a couple of interns. I, along with a couple of my classmates had the privilege of attending our first interview with them and have been given an opportunity to intern at Dow.

After the initial application for the internship, students from the Chemical, Civil, Electric and Electronics and Mechanical Department were shortlisted based on our CGPA. We were asked to report in person at their Guindy office for the interview process which took place in 3 rounds.

Technical Round: For this round, we were given a question paper consisting of 41 questions among which 36 of them were MCQs and single line answers while the remaining 5 were

subjective. The questions were based on topics we had learnt in our previous semesters and included questions that tested our aptitude. Each question was different, and it was interesting to attempt them.

Group Discussion: We were given two topics -

"Young minds or Experienced Hands Spearheading the Industry"

"Education is necessary for success"

The five of us had different views and listening to each point gave us something to think about even after the discussion was over.

Personal Interview: Three interviewers from the department we will be working with, made us feel very comfortable and relaxed as they asked us to talk about ourselves, our interests, and hobbies. They also questioned us about the internships and courses we had completed.

The overall experience was very pleasant, and they treated us very well. We were also served a hearty lunch.

Within a week, Dow mailed our college shortlisting the ones who were to attend the HR interview. It was a short 10-minute interview where they explained how the internship would work and if we had any other questions about the same.

We are very lucky to be given the opportunity to attend the internship at Dow Chemicals and we hope to perform well to get the opportunity to continue at their company.

Arunraj S K , IV-Year writes...

I am happy to share that, I got placed in Technip Energies recently. I wish to share my complete interview process and some preparation tips, which will be useful for those who are preparing for core companies. Technip Energies is a world-leading engineering and technology player which has 60-year history executing some of the world's largest and most complex Engineering and Construction (E&C) projects

Round 1: (Online Aptitude and Technical test) - 21 people from SSN and a total of 85 students from other colleges attended the first round. The test took place for nearly 2 hours and was similar to the AMCAT platform. R.S. Agrawal book is one of the standard books for the preparation. My preparation through India Bix website added an advantage to me. The time to clear verbal, quantitative and logical reasoning sections for one hour. The next 1 hour was allotted for technical questions mostly from Strength of materials, Thermodynamics, Fluid mechanics, Heat and mass transfer, Engineering Materials, Metallurgy, Machine design.

Round 2: (both technical and HR interviews took place in a single panel)

We had 4-panel members in our interview process. Nine students were shortlisted for this round from SSN. It was a pool campus drive with students from other colleges including PSG, SVCE etc,. The very first question of the interview was to introduce myself. Then I was asked to describe my final year project and there was two to three follow up questions. They ask me to make some assumptions on my project and asked about my initial approach for the case. There were also some questions from my third-year project.

Moving on to the technical questions, I mentioned Strength of materials and Thermodynamics as my favorite subject.

Some of the questions which were asked to me is mentioned below:

1) What is the stress-strain diagram?
2) Can you draw the stress-strain diagram for Mild Steel?
3) Assume a uniform rod where we pull the rod on both ends. Can you tell me what is the process called? and do you know anything about that in detail? - I explained the complete experiment which we did in the strength of materials lab (Tensile test in UTM machine)
4) Longitudinal and Circumferential stress? and formula?
5) Can you draw SFD and BMD diagram for a simply supported beam with a point load in the midpoint?
6) Point of contraflexure?
7) Difference between fatigue and creep?
8) What is Carnot cycle?
9) What are the process cycles in the Carnot cycle?
10) NDT? (Non-destructive testing)
11) Examples of NDT machines?

Instead of answering with only definitions, answer with an example for each of the questions if possible.

HR Questions:

1) Tell me about your In-plant training?
2) Why Technip?
3) What do you know about Technip Energies?
4) Hobbies?
5) About my past diploma experience?
6) Why engineering after diploma?
7) Family background?
8) Why not higher studies?
9) Are you comfortable working in any department?
10) What will be your preference if you received offers from both Caterpillar and Technip?
11) Do you have any questions?

https://youtu.be/RXbqFrlXPl0

https://youtu.be/zArZ5K8T63w

https://youtu.be/FqQ21QmIfLo

The above videos helped me to prepare for the technical round. If you are preparing for core subjects, try to revise all the basics from all the subjects apart from your area of interest. Prepare some important topics including welding from manufacturing, theories of failure from machine design, Iron-Carbon Diagram from engineering materials, degrees of freedom from the kinematics of machinery, psychrometric chart from HMT, thermodynamic laws, and cycles. Also look through the company website before attending the interview. Get some idea about their projects and products. We can easily find the machines and techniques they used for their production/process; this will help to answer some questions.

Santhosh Kumar V and Nithish C , IV-Year writes...

This is Santhosh Kumar V from Final Year Mechanical Engineering. I would like to share my placement experience with FourKites. FourKites connects the dots across global supply chains. Candidates from Mechanical, EEE and ECE were allowed to sit for the company and the recruitment was done for the Associate Product Support role for which they offered CTC of 8.6 LPA. The entire process consisted of 4 rounds. The first round (Online Assessment) was conducted virtually, and the remaining three rounds were conducted in person at our college.

Round 1: Online Assessment

The online test was conducted on DoSelect platform. The test contained 41 questions that has to be answered within 1 hour. The questions were general English, basic and intermediate levels of Quantitative Aptitude. This round was quite easy, and one could easily clear this round. I would suggest the upcoming juniors to keep practicing the problems in R.S. Agarwal book to get prepared for any aptitude round.

Round 2: Group Discussion

From the online test, 26 students were shortlisted for the GD. We were split into 3 batches and each batch had around 8-9 students. Two topics were discussed in my GD batch. First we were asked to discuss about "What is a good customer service?" and next about "The impact of social media". Everyone was allowed to speak their points and discuss on it. Just make sure that you keep yourself engaged in the GD by responding to each of your batchmate's view. Communication will be very importantly judged in this round, hence speak the sentence with correct usage of grammar, etc. From this GD, 12 students were shortlisted for the interview.

Round 3: Interview Round-1

There were two people in the panel. It was a kind of HR round where the panelists were very polite and humble. They just wanted to know what all the soft skills are I possess and how do I apply it in the job role. I explained in a very neat and understandable manner to them. Then they tested the knowledge I have on FourKites and supply chain and I answered them confidently. The interview lasted for around 30 minutes. They also made sure that I was not interested in higher studies. The soft skills which I gained by participating in various events and competitions when I was in 2nd and 3rd year of my study, had a great impact. Notable ones are, "The Leadership Skills" which I gained when I was the Student Executive Council Member of SSN SAE Club, "Teamwork and Time Management Skills" from BFKCT and Formula Bharat competitions, and so on. Being a part of "Team Precisio Racing"has been an added advantage to me at SSN. So, my advice is as we are Mechanical Engineers, it is not only important to improve our core technical knowledge, but also few soft skills that would be useful in future.

Round 4: Interview Round-2

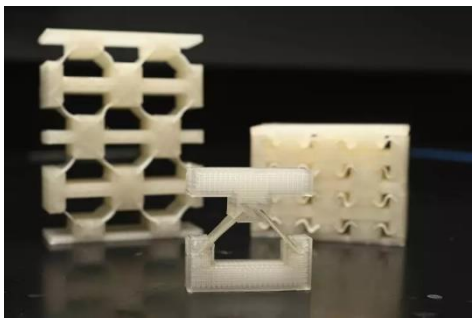
Out of 12, 6 students were shortlisted for the second round of interview which was the final round. Duration of this interview was around 30 minutes. There were 3 people in the panel, in which two of them are Managers and one person was from Talent Acquisition. The interview started with a brief introduction about me, followed by a few situations based questions which were to be correctly answered. They just gave me a situation and asked to respond to it at that moment. Here, mainly they were judging my thinking perspective in different situations they provided. Then they asked about my productive days during lockdown, and I showed them my accomplishments. They were interested to even know more about me and started asking my hobbies and other extra-curricular activities. The interview went like this for around 25 minutes. Then they asked me to solve a puzzle to test my logical thinking and analytical skills. The question was of intermediate level. It took me around 5 minutes to arrive at the correct solution. The panel members were very much satisfied by my performance, and I could really feel that when I came out of the interview room. After 10 minutes the results were announced.

Out of 6, 4 students received FourKites job offer, in which two are from our Mechanical Department. I am very much delighted that me and my friend Nithish C are two among the 4 selected candidates.

The process was carried out very smoothly and the recruiters were very polite and humble throughout the process. We are very thankful to our professors and also to our hardworking PCs who stayed with us till the end of the process and believing in us.

Mech Marvel

A new material, strong as metal, yet light as foam!



Researchers at Johns Hopkins University have developed a new shock-absorbing material that could be made use of in helmets, armour, vehicle, and aircraft parts that are lighter, stronger and, importantly, reusable.

This uses the energy absorbing ability of liquid crystal elastomers (LCEs) which are networks of elastic polymers in a liquid crystalline phase that give them a useful combination of elasticity and stability. The team created materials that consisted of tilted beams of LCE, sandwiched between stiff supporting structures. This basic unit was repeated over the material in multiple layers, so that they would buckle at different rates on impact, dissipating the energy effectively.

In experiments, the materials held up as they were struck by objects weighing between 1.8 and 6.8 kg at speeds of up to 35.4 km/h. The first application area of this will be helmets, as the team is currently working with a company to design and test this kind of protective gear for athletes and the military. Here's an Article and a Journal Paper for further details about this development.

Corporate Story

Yulu

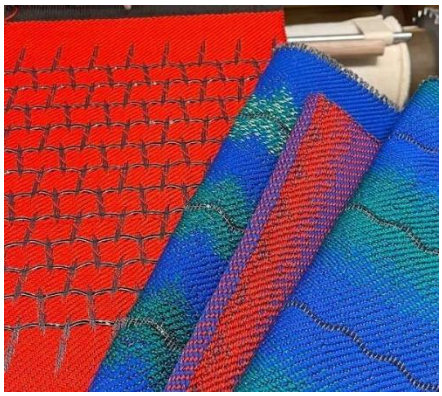
A need for a good, easy to use and efficient transportation system is always on the up. Yulu is a company that offers solutions for the daily commuter. Using Micro Mobility Vehicles through a user-friendly mobile app, they provide seamless, shared, and sustainable first and last mile connectivity. The Bangalore based company, founded in 2017, initially tested the market and found that electric mobility solutions were the way to go.

They designed the first of their line of small 2-wheelers, 'Yulu Miracle' which has been enabling individuals to take eco-friendly rides at pocket-friendly prices and reduce carbon footprint. Yulu bikes use swappable lithium-ion batteries and is India's largest Battery-as-a-Service (BaaS) operator via their Max Network which is a dense network of high-capacity back-end charging stations and conveniently located, customer-facing swapping stations.

Backed by marquee investors like Bajaj Auto, Blume, 3One4, WaveMaker, and Rocketship, the company wants to make mobility-as-a-service mainstream and aims to expand from their current operations from six cities to all cities across India. If you're interested, do check out their Website and LinkedIn for news and openings.

Amazing Innovation 213

Fabric that can hear!



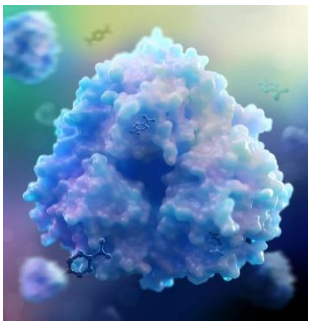
Having trouble hearing? Just turn up your shirt. That's the idea behind a new "acoustic fabric" developed by engineers at MIT and collaborators at Rhode Island School of Design. The team has designed a piezoelectric fibre when woven into a fabric works like a microphone, converting sound first into mechanical vibrations, then into electrical signals, similarly to how our ears hear.

The fabric can capture sounds ranging in decibel from a quiet library to heavy road traffic and determine the precise direction of sudden sounds like handclaps. When woven into a shirt's lining, the fabric can detect a wearer's subtle heartbeat features. The fibres can also be made to generate sound, such as a recording of spoken words, that another fabric can detect.

In addition to wearable hearing aids, clothes that communicate, and garments that track vital signs, the team sees applications beyond clothing such as integrating with spacecraft skins to listen to space dust, embedding in buildings to detect cracks and making smart ocean nets. Here's an Article about the research and the Journal Paper for further reading.

Amazing Innovation 214

New enzyme that breaks down plastics!



The discovery of a bacterium with a natural appetite for PET (polyethylene terephthalate) plastics happened in 2016, since then we've seen some important breakthroughs demonstrating how enzymes can be used to break down common plastics.

Researchers at the University of Portsmouth then succeeded in engineering a better-performing version of such an enzyme, called PETase, and in 2020 combined it with another called MHETase to form a super enzyme that digests PET plastics at six times the speed. The remnants of the process are the two chemical building blocks of PET, ethylene glycol (EG) and terephthalate (TPA). EG is a chemical with numerous uses, while TPA is not and is hard to degrade. Now, the team has found an enzyme from the PET-consuming bacteria called TPADO that recognises TPA specifically and can break it down with great efficiency.

With more than 400 million tons of plastic waste produced each year, the overwhelming majority of which ends up in landfills, it is hoped this work will open the door to improve bacterial enzymes to tackle the challenge of plastic pollution and develop biological systems that can convert waste plastic into valuable products. Here's an Article about the research and the Journal Paper for further reading.

Alumni Write-Up

Pranav Prakash (Mech 2010 batch)

Pranav is a retail industry manager at Google, Africa. Being a marketing consultant and a public speaker, he has worked across analytics, revenue strategy, and sales roles at Google for the last 6 years, spanning markets such as the UK&I, East Africa and South Africa and clients from SMBs to multi-billion-dollar global brands. In his undergraduate years in SSN Pranav, was an enthusiastic and an advancing leader spanning in areas from cultural, theatre, EDC to sports. After graduation Pranav enrolled in the prestigious Ashoka institute for his leadership and liberal studies honing his leadership skills through participation in various organising committees. During the time he also secured an internship in Healers at Home as a business development and strategy intern, where he helped in spearheading recruitment. Successively he joined google as an associate account strategist and within a year became a digital marketing strategist responsible for developing strategies for the growth of midmarket businesses across sectors. Next on his career path was his senior digital marketing position Specialising in digital growth strategies for FinTechs & Financial Services businesses in the UK. Currently he is the retail industry manager in the city of Johannesburg, Gauteng, South Africa aiding sophisticated business goals and clients in strategizing them towards their growth.

Karthik Duraiswamy (Mech 2008 batch)

The domain of finance is one of the most rewarding of professions and a dream for many. Let us have a peek at one such finance aspirant from our department. Karthik Duraiswamy was a finance fanatic right from his first year in college. After graduating from SSN in 2012, he obtained his post graduate diploma in management from the prestigious IIM-Ahmedabad. He started his career in finance from an internship in Ocwen Financial Solutions as a part of the corporate strategy team. Karthik worked in the Corporate Strategy team to improve their key functions and to improve the overall process, generating templates for specific financial reporting purposes & automated existing financial reports. After graduation, he was recruited by the HSBC bank in Mumbai for Model Risk Audit. Gaining two years of work experience he joined Goldman Sachs as an analyst. In a year, Karthik was promoted to the position of risk model associate; steadily ascending to his current position of Vice President of risk modelling.

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)

DST - Call for Project Proposals under Indo-Taiwan Programme of Cooperation in Science and Technology (CFP-2022),
Department of Science and Technology (DST), New Delhi-110016
Last date for submission of the project proposal: **08-04-2022**
https://dst.gov.in/news/indo-taiwan-cfp-2022

DST - Call for Project Proposals under IGSTC 2 Plus 2 Call on the Thematic Areas Waste to Wealth and Sustainable Packaging 2022, Indo-German Science and Technology Centre (IGSTC), Department of Science and Technology (DST), New Delhi-110016
Last date for submission of the project proposal: **15-04-2022**
https://dst.gov.in/sites/default/files/IGSTC%20Call%202022%20Flyer.pdf

Department of Biotechnology
Joint Projects under UK-INDIA COVID-19 Partnership Initiative
Last date for submission of the project proposal: **05-05-2022**
http://dbtindia.gov.in/latest-announcement/announcement-joint-projects-under-uk-india-covid-19-partnership-initiative

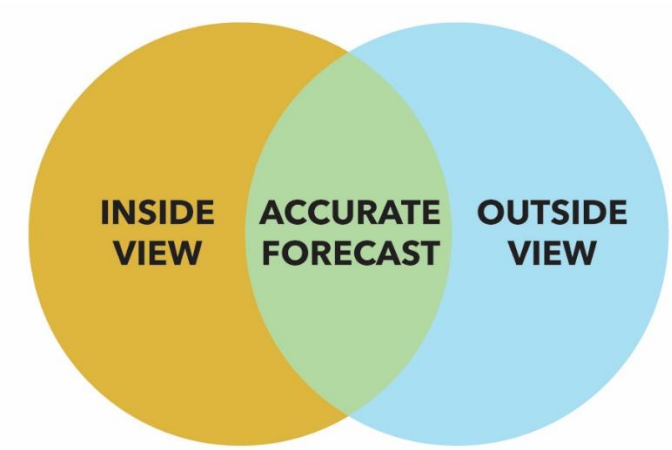
Conference with Scopus/SCI Publication

International Conference on Processing and Characterization of Materials
ICPCM - 2022
ICPCM 2022 (google.com)

The Tactical Mindset

The inside and the outside view

Say, you currently have been given a bunch of assignments in Strength of Materials with the submission date falling in the following week. You remember that your last set of assignments were time consuming, and you ended up taking about two days to complete and submit, thereby ending up with a late submission. In the following days, you friend attempts the assignment and conveys his exhaustion. But now, you glance the assignment paper; the paper seems like a cakewalk, and you are confident that you will be able to complete the task within half a day. Now with everything in order, you start you work on the eve of the submission day with a wave of determination and focus. Dashing through a few problems, you crave for a break and look at the clock; to your horror it is well past twelve!



You have been a victim of the planning fallacy or an 'inside view'. It not just you but most tasks ranging from daily chores to multi-billion dollar project tend to sucumb to this heuristic. **The inside view is the way people usually think about decisions stemming from a number of biases, including optimism, overconfidence.**

We often fall prey to our emotions while making decisions and even more so in the case of forecasting; depending on our current state of mood coupled with an inflated confidence in our skills and a cursory look at the problem we jump to pose solutions without a regard for historical data. Such times call for the 'outside view' of predictions. **An outside view takes into account a broad view of the problem considering the history and neighbouring instances.** In our assignment example, looking at the historic data means to consider the time it took you to compete similar tasks last time and the neighbouring instances refers to you friends' case.

We need to tread carefully here. The contention is not that the outside view is superior to the inside view. Always one need to evaluate the minor details of the problems to complete the task at hand and no one knows better about one's skills than oneself, both of which are a signature of the inside view. Ultimately, for a robust forecast a nuanced perspective having a blend of the inside and the outside view is necessary.

Corporate Wisdom

From the desk of Ramki -– Aspire to Inspire

Happy Morning

One of the guiding principles of life has been "It does not matter how much I have, what really matters is what I do with what I have?" It is to refer to a cricket crazy country like India how in 1993 – it is not necessarily Captain Kapil Dev had the most talented team, but he knew what to do with the team. Hence India was able to win the World cup. In one of the public meetings Kapil Dev started speaking like this –I am a man of very few words so I cannot speak for more than five minutes. But everyone remembered his five minutes speech much more than some of the intellectuals who spoke on that day. It does not matter how much I have, what really matters is what I do with what I have.

Similarly, it is that attitude that enabled that little boy who hailed from that fishing hamlets of Rameswaram to go on to become not only the President of India, but one of the greatest living role model India had- Dr A.P.J Abdul Kalam. To me he is living testimony to "it does not matter how much I have, what really matters is what I do with what I have.

I have seen lot of people who are not progressing in life and sitting on excuses-

- I don't have money to make it in life,
- I don't have intelligence to make it in life,
- I don't have educational background to make it in life or family support and
- Million other reasons why it cannot be done.

As long as you are directing your intelligence on why something cannot be done, you will find enough reasons why it cannot be done. Give yourself a chance and direction to your intelligence. Stop thinking why it cannot be done and start thinking how it can be done. Then you will find the answer. And all those people who directed their intelligence with the question always–How things can be done, they all commit their lives to this principle said above.

One of those years when the monsoon betrayed all the farmers and normally when they plant a truck load of seeds the yield, they get out of the harvest is at least seven truck loads. That year because of monsoon failure, they planted a truck load of seeds and they just got back a truck load of seeds. The entire village was in great depression. At that time this little boy saw through the window and his father was in prayer in the paddy fields – thanking God and saying- "Thank you God- you at least returned the seeds to me. I planted a truck load, and you gave me back the truck load. Curious the son went and asked the father – when entire village feel that the monsoon has betrayed them and the farmers, what makes you think that you should be grateful to God. The father smiled at the son and said-

"Never focus on what has left you, always focus on what you are left with, because with that you can build your future."

#WishingMostAndMore

Have a great week & Wonderful day!

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