Achievements in Sports, Projects, Industry, Research and Education

SPIRE

Monthly Newsletter Department of Mechanical Engineering

Department of Mechanical Engineering Volume 12 Issue 1 January 2022

Sri Sivasubramaniya Nadar College of Engineering

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



From the HOD's Desk....



It's a pleasure to bring to you the January 2022 edition of Aspire, as we herald the beginning of a new year with renewed hope, vigour and positivity.

Amongst the regular features, the highlight of this edition is annexed with the report on the Second International conference on Engineering materials, metallurgy and manufacturing -

ICEMMM 2021, Dec 16-17, 2021, which was a resounding success with the active participation of authors from 160 + papers, carefully chosen from 300 + entries after a rigorous peer review process. The Keynote speakers were a judicious mix of academia and Industry with Dr. Manoj Gupta - NUS, Dr S Aravindan - IIT Delhi, Dr AS Balakrishnan - Ford motors and Dr Dhinakaran - Tata Steel UK, gracing the occasion and sharing their rich expertise with the audience!

It's that time of the year when all eyes are on Tribute, January 8th, 2022, which is the annual Alumni event that SSN organizes and one which brings together our old students for a day of rendezvous with their alma mater. A day that reconnects them with their friends and teachers, a day that brings back memories of another day and time. A warm welcome to the Mechanical Engineering alumni! Happy Networking!

I thank all our readers for the continued patronage of Aspire, which keeps inspiring us to share more of what we do, and my wishes to the editorial team for putting together this edition.

Happy New Year 2022!

Best wishes,

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



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Abhijit Banerjee



"Awareness of our problems does not necessarily mean that they get solved. It may just mean that we are able to perfectly anticipate where we will fail."

Poverty, the everlasting global plight has always proved to be a very challenging problem to eradicate. In order to save billions of people, policies have to be deliberated with a careful

understanding of our mitigation methods. One such luminary who contributed to this knowledge is Dr Abhijit Banerjee. In recognition of his work in studying global poverty, Abhijit Banerjee, the Indian American economist along with Esther Duflo and Michael Kremer was awarded the 2019 Nobel Prize for economics.

Abhijit Vinayak Banerjee born on February 21, 1961, in Mumbai, India. Banerjee is currently the Ford Foundation International Professor of Economics at the Massachusetts Institute of Technology; he has taught at the Harvard University and the Princeton University.

Building on the results of field experiments conducted in the mid-1990s by Kremer and his colleagues, which had shown that poor learning among schoolchildren in western Kenya was not caused by scarcity of textbooks or even by hunger (many students went to school without breakfast), Banerjee and Duflo tested the hypothesis that learning could be improved by implementing remedial tutoring and computer-assisted learning programs to address the needs of weaker students. Working with large student populations in two Indian cities over a two-year period, they found that such programs had substantial positive effects leading them to conclude that a major cause of poor learning in low-income countries was that teaching methods were not properly adapted to students' needs. Banerjee and Duflo also used field experiments in the Indian city of Hyderabad to test the effectiveness of microcredit loan programs in promoting economic growth and development which showed to be ineffective in driving positive change.

Work by Banerjee, Duflo, and Kremer directly and indirectly influenced national and international policy making in beneficial ways. Banerjee and Duflo's studies of remedial tutoring and computer-assisted learning in India, for example, led to large-scale programs that affected more than five million Indian school children.



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Campus Update



Mr. Shiv Nadar Felicitated as 'Philanthropist of the Year' by the Indo-French Chamber of Commerce and Industry

The Indo-French Chamber of Commerce and Industry (IFCCI) is one of India's most active bilateral chambers and promotes trade relations between India and France.

Mr. Shiv Nadar was awarded the Philanthropist of the Year (Jury Special) award at the third edition of IFCCI CSR Conclave and Awards in Delhi. The awards recognize CSR projects of top French companies in India and this year's edition also felicitated organizations and individuals who contributed to the French Solidarity Mission for India's oxygen crisis caused by the COVID-19 pandemic.



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SHIV NADAR FOUNDATION

Roshni Nadar Malhotra

Ranked **#52**

Forbes 100 Most Powerful Women 2021

We are thrilled to announce that Roshni Nadar Malhotra, Trustee, Shiv Nadar Foundation, andChairperson, HCL Technologies has ranked #52 (up from #55 in 2020 and #54 in 2019) on the"Forbes100MostPowerfulWomen"2021List.A stalwart in every right, she has continued her leadership streak by maintaining a visionaryoutlook towards the future and continues to break the 'glass-ceiling' every day.



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Dr. Radha as The Vice Principal

As SSN is growing in stature, we find that, in addition to the Principal, the administration needs more senior faculty to take charge of focus areas like research and accreditation. It gives me great pleasure to announce that we have appointed Dr Radha as the Vice Principal. She will focus on promoting research and ensuring that the accreditation processes are adhered to in each department.



Dr. Radha has been with SSN since 2003. She is an extremely efficient administrator and has ably developed the ECE department into a model department. She has brought 10 external projects of value over Rs 3 crore to SSN.

Please join me in wishing Dr Radha the very best in her new role.

Kala Vijayakumar, President, SSN Institutions

Skating Achievement of Adithya S, Mech II Year

I have participated in the recently conducted 59th Nationals Skating Championship held in Mohali; Punjab conducted by Roller Skating Federation of India from 11-12-2021 till 22-12-2021. In that I participated in Artistic Skating competition and won a silver in solo dance and another silver in couple dance. I participated in only 2 events and won silver in both events.







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New Head of the Departments

Professors took charge as Head of the Department with effect from 16-December-2021



Dr. V. Rajini



Dr. P. Vijayalakshmi



Dr. T.T. Mirnalinee



Dr. K. Sathishkumar



Dr. K.S. Vijay Sekar

Sl. No.	Name of the Professor	Department
1	Dr. V. Rajini	EEE
2	Dr. P. Vijayalakshmi	ECE
3	Dr. T.T. Mirnalinee	CSE
4	Dr. K. Sathishkumar	Chemical
5	Dr. K.S. Vijay Sekar	Mechanical

- The Principal



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Department Update

Placement Update

YES, THE NUMBER OF PLACED HAS SURPASSED "117"

After an issue and a long wait to resolve, one student from our dept. got placed in Wipro as a GET. Happy to state that already 8 got placed with Wipro and now it is nine!! Rohith S, I join with you all in Congratulating him and wishing him a great Career ahead with WIPRO. His logical reasoning ability, programming skills and presence of mind helped him to get the offer. Though it was a delay for him, it all ended well on a sweet note.

Three of our Already Placed Mech students have got into a Super-dream

Company Name: **Crayon Data** Job Type: **Super-Dream** Job Role: **Associate Customer Scientist** CTC: **INR 10,20,000/-**



- 1. Ambarish Srinivasan
- 2. Chandrapraban U
- 3. Shriram Suresh Kumar

Students were tested thoroughly in Programming, Puzzles, and general skills by Technical and HR Experts of the company.

Once again Mech students competed with the other brilliant minds of



Circuit depts for super-dream offers and proved themselves. Core discipline students winning a Job for Data Analytics/IT roles is something encouraging. We are in the Race and only need to accelerate.

Plenty of jobs available in this sector. Need to increase our number in the years to come! Projects and Hands-on on IOT/Data Analytics/Robotics/Programming using Python or Java are all useful. Astonished that the above students have answered SQL based questions and won this offer!! Kudos!!

Sometimes our students are way beyond our imaginations in terms of their Skills gained!! Glad!!



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Company Name: Latent View Analytics Job Type: Business Analytics Job Role: L1 Entry Role CTC: INR 6,50,000/-

- 1. Adithya Sathakambodi
- 2. K. S. Manoj Kumar
- 3. Mohamed Saajid N
- 4. Pavithran M
- 5. Rishi Gnanasekaran
- 6. Sai Charen Vikram
- 7. Sangeeth Ravichandran
- 8. Sundar GM





In the above list of 9, six got placed already and the remaining 3 got their first job. There were some interesting rounds in the selection process of Latent View Analytics such as Puzzle round, Guesstimate round with Questions such as providing a method to estimate how much petrol per week is consumed in Chennai. The sharp answer told by Mohamed Saajid was very pleasing. He did few Online courses in Database Management, Coding, AI/ML that impressed the panel. He was the only Mech student to have put to an in-depth testing of his Software skills during the 45 min long grilling. For others it was mostly puzzles and queries like why Data Analytics? Overall, our Mech students proved to be sharp and smart once more, grabbing 8 out of 20 offers that the company gave across SSN this time.

HEARTY CONGRATULATIONS



Dr. N. Lakshmi Narasimhan

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Patent Granted



The patent submitted by the inventors Mr. D. Ebenezer, AP/Mech, Mr. S. Shashank (Student-2013 pass out) and Mr. M.Tarun (Student-2013 pass out) in Nov-2012 is granted on 30-11-2021. Title: "AIR INLET REGULATING DEVICE FOR FLUID DRIVEN TWO STROKE ENGINES:, App. No:4646/CHE/2012, **Patent No.: 383221**, / Patentee: SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING





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International Journal Publication - SCI Clarivate Indexed

Lakshminarayanan, A. K., Ramachandran, S., Rajabharathi, B., & Mirihanage, W. (2022). Decisive influence of critical process parameters on the microstructure and tensile properties of friction stir back extruded magnesium alloy tubes. Journal of Manufacturing Processes, 73, 207-219.





Rajasekaran, R., and A. K. Lakshminarayanan. "Probing the stress corrosion cracking resistance of laser beam welded AISI 316LN austenitic stainless steel." Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (2020): 0954406220965635.

Rajasekaran, R., Lakshminarayanan, A. K., Damodaram, R., & Balasubramanian, V. (2021). Stress corrosion cracking failure of friction stir welded nuclear grade austenitic stainless steel. Engineering Failure Analysis, 120, 105012.



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Prabakaran, M., Rajakannu, S., Adhimoolam, Lakshminarayanan. K., & Gupta, M. (2021). In vitro degradation, haemolysis and cytotoxicity study of Mg-0.4 Ce/ZnO2 nanocomposites. IET NANOBIOTECHNOLOGY, 15(2), 157-163..

Venkatakrishna, A., Lakshminarayanan, A. K., Vasantharaja, P., & Vasudevan, M. (2021). Decisive impact of Filler-free joining processes on the Microstructural evolution, tensile and impact properties of 9Cr-1Mo-V-Nb to 316 L (N) dissimilar joints. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 09544062211029307..

Ramachandran, S., Lakshminarayanan, A. K., Reed, P. A. S., & Dulieu-Barton, J. M. (2021). Application of Imaging Techniques to Determine the Post-Yield Behaviour of the Heterogeneous Microstructure of Friction Stir Welds. Experimental Mechanics, 1-19.



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Bakkiyaraj, M., Lakshminarayanan, A. K., Yuvaraj, S., & Nagarajan, P. K. (2021). Effect of friction time on tensile strength and metallurgical properties of friction welded dissimilar aluminum alloy joints. Materials Testing, 63(12), 1097-1103.

International Journal Publications - SCI Clarivate Indexed

Nitin, M. S., & Suresh Kumar, S. (2021). Ballistic performance of synergistically toughened Kevlar/epoxy composite targets reinforced with multiwalled carbon nanotubes/graphene nanofillers. Polymer Composites.





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Magarajan, U., and S. Suresh Kumar. "Effect of ceramic particles reinforcement on the ballistic resistance of friction stir processed thick AA6061 surface composite targets." Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (2020): 0954406220954465.

Magarajan, U., and S. Suresh Kumar. "Experimental ballistic performance of friction stir processed aluminum (AA6061-B4C) surface composite." Mechanics Based Design of Structures and Machines (2021): 1-21.



Kumar, S. Dharani, and S. Suresh Kumar. "Effect of heat treatment conditions on ballistic behaviour of various zones of friction stir welded magnesium alloy joints." Transactions of Nonferrous Metals Society of China 31.1 (2021): 156-166.



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Kumar, S. S., Shankar, P. A., & Kumar, K. L. (2021). Failure investigation on high velocity impact deformation of boron carbide (B4C) reinforced fiber metal laminates of titanium/glass fiber reinforced polymer. Defence Technology.

Suresh Kumar, S., and Pranaav Sankar. "Effect of bio-inspired surface pattern (Pangolin's scales) and grooved mechanisms on the high velocity ballistic performance of aluminum 6061-T6 targets." Mechanics of Advanced Materials and Structures (2021): 1-20.

Kumar, Selvan Dharani, and Sundaram Suresh Kumar. "Numerical and experimental ballistic performance of welded magnesium (AZ31B) plates." Emerging Materials Research 9.4 (2020): 1217-1228.

International Journal Publications - SCI Clarivate Indexed

Damodaram, R., Rai, P., Daniel, S. C. J., Bauri, R., & Yadav, D. (2021). Friction surfacing: A tool for surface crack repair. Surface and Coatings Technology, 422, 127482.





Ezhilmaran, V., and R. Damodaram. "Laser Surface Texturing on Nickel-Aluminium-Bronze Alloy for Improving the Hydrophobicity." Lasers in Manufacturing and Materials Processing 8.1 (2021): 15-27













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International Journal Publication - SCI Clarivate Indexed



Senthur Vaishnavan, S., and K. Jayakumar. "Performance analysis of TIG welded dissimilar aluminium alloy with scandium added ER5356 filler rods." Journal of the Chinese Institute of Engineers 44.7 (2021): 718-725.













Gopi, R., Vinoth Thangarasu, and Anand Ramanathan. "A critical review of recent advancements in continuous flow reactors and prominent integrated microreactors for biodiesel production." Renewable and Sustainable Energy Reviews 154 (2022): 111869.





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Faculty Write-Up

Scopus Publication

S. Cyril Joseph Daniel and A. K. Lakshminarayanan, Comparative Study of Friction Stir Welding and Underwater Friction Stir Welding on Magnesium ZE41 Alloy, Lecture notes in mechanical engineering 755-766, 2021.

A. Venkatakrishna, A. K. Lakshminarayanan, K. Radhika, and R. Rajasekaran, Characterizing the Tensile Deformation Behavior of Friction Stir Welded Dissimilar Joints Using Acoustic Emission Technique, Lecture notes in mechanical engineering, Vol.1 767-778, 2021.

R. Rajasekaran, A. K. Lakshminarayanan, A. Venkatakrishna, and K. Radhika, Study of Infrared Thermography on Tensile Behavior of Laser Beam Welded 316LN Austenitic Stainless Steel, Lecture notes in mechanical engineering, Vol.1, 779-787,2021.

Suresh Kumar S, Naren Balaji V., Mode-I, Mode-II, and Mode-III Stress Intensity Factor Estimation of Regular-and Irregular-Shaped Surface Cracks in Circular Pipes Journal of Failure Analysis and Prevention. 20:853-67. 2020.

T.R. Vijayaram, M.P. Natarajan, M. Ramarao, D. Ananthapadmanaban and A. Gopinath Quenching of EN-8 Medium Carbon Steel in Salt Bath of Different Concentrations, Int. J. Vehicle Structures & Systems, Volume 14, Issue 3, 2021

D. Ananthapadmanaban, J. Praveen, T.R. Vijayaram, M.P. Natarajan and M. Ramarao, Study on the Mechanical properties of INCONEL 625 Alloy in the Cast and Extruded conditions, Int. J. Vehicle Structures & Systems, Volume 14,Issue 3, 2021.

Faculty Monthly Activities

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D.Ananthapadmanaban, D.Vijayan, E.Ravikumar presented the paper entitled Analysis of bend angle variation in Aluminium-Copper friction welding in the presence and absence of Nickel interlayer at ICEMMM 2021 International Conference held on 16th and 17th December, 2021 at SSN College of Engineering.

Dr.S.A.Srinivasan presented a poster entitled PERFORMANCE EVALUATION OF C903000 COPPER COMPOSITE STRENGTHENED BY RARE EARTH CERIUM OXIDE DISPERSOIDS FOR TRIBOLOGICAL APPLICATIONS in the Three day International Conference on Advanced Materials And Mechanical Characterization (ICAMMC-

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2021)"organized by the Department of Physics and Nanotechnology and Department of Mechanical Engineering, SRM Inst. Of Science and Technology in association with the IISc, IIT-D, IIT-M, IIT-H, IIT-I, IIM-Chennai, ASM - Chennai, ICS, IPA and ACSI - India during December 2-4, 2021. PP: 340-341

Dr.M.Nalla Mohamed presented a paper entitled "An insight to improve crushing energy absorption capacity of cylindrical tubes using corrugation under axial compression loading" in the SECOND INTERNATIONAL CONFERENCE ON ENGINEERING MATERIALS, METALLURGY AND MANUFACTURING (ICEMMM 2021) organized by Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (Ssn) College Of Engineering, Kalavakkam held on 16-17th December 2021

Dr.M.Nalla Mohamed, G.VR. Sakthivel presented a paper entitled "Effect of stitching on improving the tensile strength of sisal fabric/epoxy composites for internal bone plate applications" in the SECOND INTERNATIONAL CONFERENCE ON ENGINEERING MATERIALS, METALLURGY AND MANUFACTURING (ICEMMM 2021) organized by Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (Ssn) College Of Engineering, Kalavakkam held on 16-17th December 2021

Dr. M S Alphin received certificate of appreciation from Ministry of Education for serving as a Primary Evaluator for Toycathon 2021.

Dr. R. Vimal Samsingh, ASP/Mech delivered a guest lecture on the topic "Tools for Data Modelling and Optimizing the Research Data with hands on training on Google Colab platform ", in the AICTE Sponsored FDP conducted by Panimalar Institute of Technology on 16th December from 11.00 am to 12.30 pm

Dr.D.Ananthapadmanaban, Associate Professor, attended WAMP 2021-1 day workshop in Advanced Materials and Processing. conducted on 30th November,2021. Dr. S. Santosh, Assistant Professor, attended One-week online AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Design, Synthesis and Characterization of Novel Materials" At Indian Institute Of Information Technology Tiruchirappalli from 25/10/2021 to 29/10/2021.

Dr. S. Santosh, Assistant Professor, attended a one-Week Online AICTE Training and Learning (ATAL) Academy FDP on Novel Materials (22-26 November, 2021) Orgaized by Dept. of Mechanical Engineering, University College of Engineering, Osmania University"



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Dr. R.Rajeswari, Associate Professor, attended 12-week online Faculty Development Programme (FDP) on "Rapid manufacturing" conducted by NPTEL-Swayam during July - October 2021.

Dr. R.Rajeswari, Associate Professor, attended 12-week online Faculty Development Programme (FDP) on "Engineering Metrology" conducted by NPTEL-Swayam during July - October 2021.

Dr. S. Santosh, Assistant Professor, attended the 6 days FDP on "3D Printing / Additive Manufacturing" Conducted by SRM Isntitute of Science and Technology from 06.10.2021-12.10.2021.

Dr. B. Anand Ronald successfully completed the One Week ATAL FDP on "Metal Additive Manufacturing" conducted on behalf of AICTE by VNIT, Nagpur from 13 Dec 2021 to 17 Dec 2021.

Dr. Anirudh along with Dr. AK Lakshminarayanan and Dr. Santosh S have successfully conducted a workshop on advanced materials and processing at SSN on 30th of November 2021.

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, delivered an Invited Talk on "Thermal Management of Lithium-Ion Batteries" during the Guest Lecture Organized by the SAEINDIA Collegiate Club of Sri Sai Ram Engg. College, Chennai on 10.12.2021. Dr. N. Lakshmi Narasimhan delivered an invited talk on "Digital Transformations in Teaching & Learning - A Holistic Perspective", during the AICE-ISTE Virtual Induction/Refresher programme on "Pedagogy and Assessment through Digital Learning Platform", Organized by Bannari Amman Institute of Technology, Sathyamangalam on 11.12.2021.

The patent submitted by the inventors Mr. D. Ebenezer, AP/Mech, Mr. S. Shashank (Student-2013 pass out) and Mr. M.Tarun (Student-2013 pass out) in Nov-2012 is granted on 30-11-2021. Title: "AIR INLET REGULATING DEVICE FOR FLUID DRIVEN TWO STROKE ENGINES:, App. No:4646/CHE/2012, Patent No.: 383221, / Patentee: Sri Sivasubramaniya Nadar College of Engineering

Dr. Satheesh Kumar Gopal delivered a invited talk on "Role of robotics in the future of Manufacturing" on 9th December 2021 at the AICTE ATAL sponsored Five-days FDP on Recent Trends in Industrial Robot Programming and Applications with Hands-on Training organized by the Robotics Laboratory, Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai.

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Non-Teaching Staff Monthly Activities

Mr. P Balasundaram / Lab assistant GR-1 (SR) Attended National Workshop on "Advanced Materials and Processing" on 30-11-2021. 9.30 am to 2.40 pm

Mr. P Balasundaram / Lab assistant GR-1 (SR) has participated in a National workshop (Virtual mode) on "Advanced Materials and Processing (WAMP2021)" organized by the Department of Mechanical Engineering, SriSivasubramaniya Nadar College of Engineering, Chennai on 30th November 2021.

Mr. P Balasundaram / Lab assistant GR-1 (SR) completed alison course of social media strategy on 22/12/ 2021

J. Ponmuthuraja /Machinist Grade-I (Sr.grade) has participated in a National workshop (Virtual mode) on "Advanced Materials and Processing (WAMP2021)" organized by the Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai on 30th November 2021.

R. Subramani / Lab-Assistant / Sr.Gr-I has participated in a National workshop (Virtual mode) on "Advanced Materials and Processing (WAMP2021)" organized by the Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai on 30th November 2021.

Nagarajan S / Lab Instructor participated in a National workshop (Virtual mode) on "Advanced Materials and Processing (WAMP2021).

Nagarajan S / Lab Instructor attended in the Webinar on "Overview of Architectural Acoustics for Civil Engineers", delivered by Ms. Shilpa Vardharajan, Acoustic Design Consultant, Sonosphere Acoustic Design Consulting & Testing, and Mr. Bhavin Makwana, Production Manager - Acoustics and IAQ, Saint Gobain Gyproc, organized by Sri Venkateswara College of Engineering, Sriperumbudur, held on 4th December 2021.

Nagarajan S / Lab Instructor attended INTERNATIONAL CONFERENCE ON ENGINEERING MATERIALS, METALLURGY AND MANUFACTURING (ICEMMM 2021) during 16-17, December 2021.



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Student Write-Up

STUDENT ACTIVITIES

S.no	Date	Activity done during the month
		THIRD YEAR
1)	09/12/21	Divine Abishek V,3 rd Year
	29/12/21	Coursera online course Project Management offered by Google.
		Coursera Data Analysis offered by Google.
		<u>FINAL YEAR</u>
2)	10/12/2021	Ambarish S,4 th year
		Placed in CrayonData
3)	08/12/2021	Shriram Suresh Kumar,4 th year
		Placed in CrayonData
4)	04/12/2021	Sundar G M , 4 th year
		Placed in Latentview Analytics
5)	26/12/2021	Sangeeth R,4 th year
		Placed in Latentview Analytics
6)	04/12//2021	Mohamed Saajid N,4 th year
		Placed in LatentView Analytics
7)	18/12/2021	Vengadesh V,4 th year
		Placed in MRF
8)	20/12/2021	Nithyanandh G,4 th year
		Placed in TI India

9)	28/12/2021	Deepak Babu R,4 th year
		Placed and got internship offer in Tazapay
10)	09/12/2020	Rohith S, 4 th year
		Placed in Wipro
11)	28/12/2021	Nithish Kumar V,4 th year
		 Placed in Tazapay - India (Associate Software Engineer role).
12)	27/12/2021	Santheesh Murugan M, 4 th year
		Placed in Tazapay
13)	02/12/2021	Sai Charen V,4 th year
		 Placed in LatentView

DIVINE ABISHEK, III-Year, writes...

This is Divine Abishek from third year mechanical. I would like to share my experience on a course that I took up recently.

I'm really fond to learn, lead and manage a team and work with the people around me. To improve my skill and understanding towards management ,I went through a course on "PROJECT MANAGEMENT" which is certified by Google. The duration of the course was for 4 weeks with flexible timings. Each week consisted



of an assignment/quiz at the end, for which grade will be issued .

Overall structure of the course: In the first week, the course deals with the basics concepts of project management, and one can learn the career options in that field. Second week covers the roles and responsibilities of a project manager and it will equip you with the essential core skills . In the following week, different phases of the project lifecycle was covered. Finally, in the last week of the course, insights on the technical methadologies of the project management was given.

I was really excited to gain knowledge and improve my technical skills. This course improved my communication skill, time management, scheduling and more. I hope this would be a like starting step towards project management career in future .



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SHRIRAM SURESH , IV-Year writes...

Crayon Data is a fast-growing big data and AI company with a vision to simplify the world's choices.

The way they conducted the recruitment was different. They had come for 2 roles and the one I opted for was 'Associate Customer Scientist'.

Initially there was a screening test in which there was aptitude and coding; the coding consisted of 1 question in Python and rest all in SQL. Those who cleared this round, were called for the interview which comprised of 3 rounds.

The first round consisted of logical reasoning which tested on mathematical skills and a little





technical knowledge ,involving coding. For the coding part I prepared it from

https://www.w3schools.com/sql/ .

The second round had only one logical quiz which was quite difficult and took time. Those who cleared the second round, were called for the HR interview which was the 3^d round. They asked standard HR questions with some company fit questions to see if you would fit into the work culture. The interview panel were friendly and cheerful and a delight to talk to.

SANGEETH R , IV-YEAR , writes...



Latentview Analytics Corporation operates as a digital analytics firm. The Company provides business analytics, data engineering, marketing analytics, risk and compliance analytics, and supply chain analytic services.

The overall hiring process was very smooth and fast. The process comprised of 4stages.

Aptitude test: We were given a time limit of one hour and within that stipulated time we had to solve 50 simple mathematical questions from lessons like probability, statistics, permutations and combinations, quantitative reasoning, graphs etc. There was a cut off, hence some students couldn't clear and the remaining proceeded to the next stage.

Game round: This round was held the same day. It was a proctored game from an app called ProspectAI. It had around 11 different types of quiz games and some were points based and some were keeping track of time. These quiz/analytical games tested your speed mainly and were based on quants comparison, sequences in diagram, pick the odd one out, games with shapes and colours etc.

And in the last part of the game, we were tested on some general HR questions, each question had 1 min time and we had to record and send our short and crisp answers. (Questions like tell me your hobbies, why data analytics etc).

Technical interview: Students from the game round were shortlisted and they were called for technical interviews.

Starting with the introduction about ourselves we were then asked questions about our projects. Few analytical/ quants (guesstimates, probability etc.) questions, here they mainly looked at our approach to the problems and not whether the answer is right or wrong. Then some questions related to coding (python, SQL) and finally why data analytics.

HR interview: The HR people wanted this to be an interactive session, so that they can get to know more about our character. General HR questions can be expected here and there.



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Mech Marvel

James Webb Telescope – An Engineering Feat



On 25th December, a plan almost 30 years in the making finally lifted off, the James Webb Telescope was launched successfully towards its voyage to see into the early stages of the universe. Webb, developed in a joint effort of NASA, ESA and CSA (costing 10 billion USD) is the most complex, powerful space telescope ever built. The combination of technologies required to make the telescope possible include image processing and electromechanical systems,

thermal cooling systems, sunshields and optics. As it will be in orbit almost a million miles from Earth, it is not serviceable and required immense design, precise engineering and tedious testing in the build process.

Webb is an infrared telescope, which needs a temperature of -233'C to operate. Highlights of the design include <u>innovations</u> such as a unique thermo acoustic cryocooler. After launch, it will take a month on its journey to orbit wherein it will do a series of nerve-wracking manoeuvres to unfold its parts, open and become operational. The space community anxiously waits for Webb's deployment in orbit; expected to be functional by June 2022. Here's an <u>Article</u> and a <u>Video</u> for detailed insight into the engineering behind it.

Corporate Story

Revolt Motors



As the home market for electric two-wheelers grows rapidly, evident through the booming sales of E-Scooters; E-Motorcycles are not far behind. Revolt Intellicorp is an Indian electric two-wheeler manufacturer. Founded in 2017, they launched their first E-Motorcycle in 2019. The success of which led to big funding by investors like RattanIndia Inc.

Revolt's latest offering is India's first AI-enabled motorcycle - RV400; It can reach a top speed of 85kmph, has three driving modes and can be operated through a mobile app that has various features such as a bike locator, route history, bike health and battery status etc.

After initially establishing a base in 6 metropolitan cites, they have planned to expand to 70 cities across India in the coming years, with new models in development as well. With the central and state governments rolling out various schemes to incentivise Indian EV production and buying, there is a huge potential of growth for Revolt Motors who currently have 4% of the Indian electric two-wheeler market share. If you're interested, do check out their <u>Website</u> and <u>LinkedIn</u> for news and openings.



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Amazing Innovation 207

The Future of Semiconductor Design



What if phone batteries could last for a week on just one charge?

IBM and Samsung's new semiconductor architecture, if implemented could offer that and so much more. Traditional semiconductors feature transistors laid flat on their surface, carrying the electric flow in a lateral fashion, from side to side. The new development called Vertical Transport Field Effect Transistors (VTFET), sees

the transistors built onto the chip in a perpendicular fashion, which allows the current to flow up and down instead. This allows more transistors to be packed into space, boost current flow, save energy and has the potential to double the performance of today's solutions.

The chip is still in the developmental stage. It could prove game changing in several areas across tech in the future when put into action. Here is a <u>Video</u> about the breakthrough and an <u>Article</u> for further reading.

Amazing Innovation 208

World's Longest Li-ion Battery !



Engineers at MIT have just produced a rechargeable lithium-ion battery only a few hundred microns thick but 140 meters long (could be drawn to even greater lengths) with a capacity of 123mAh. The battery can be woven and washed and could provide power for fiber-based electronic devices and sensors.

The new fiber battery is manufactured using novel battery gels and a standard fiber-drawing system that

starts with a larger cylinder containing all the components and then heats it to just below its melting point. The material is drawn through a narrow opening to compress all the parts to a fraction of their original diameter, while maintaining all the original arrangement of parts.

Energy storage devices like this, which can bend, flex and be worked into fabrics could have a big part to play in the future of wearable electronics, computational devices, self-powered communication systems and structures. The team has already applied for a patent on the process and continues to develop further improvements in capacity and efficiency. Here is the <u>Journal Paper</u> and an <u>Article</u> for further reading.





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Alumni Write-Up

Madhivanan G - Mech12 alumnus



Madhivanan is the founder of Goalmotiv academy, an institute dedicated to personal development of individuals. The start-up was created with an intention to transform individuals into highly successful professionals and self-reliant leaders. Along with his team, Mathivanan has visited various colleges and corporations and has ushered candidates to acknowledge the importance of soft skills in industries and his guidance has helped numerous participants in this arena. Madhivanan, as part of the Entrepreneurship Development Cell (EDC)

enthusiastically participated in activities during his study in SSN which aided in catapulting his skills. After graduation, he worked as a network engineer in Wipro for a period of three years and this experience enabled him to assume the position of senior network specialist in HCL technologies. Later, he joined UST global, a digital solutions company and was positioned as a senior analyst before he went on to founding his own institute.

Suraj Sakaria - Mech12 alumnus



Undertaking a start-up is a strenuous process; the uncertainty of the outcome coupled with the vision for the future and the fundraising add to the hurdle. But success seems to be guaranteed for those who persevere beyond these walls. Suraj Sakaria, our 2012 alumnus is a testament to this nature. He went on to pursue his Master of Business Administration (MBA) from Chennai Business School after passing out of SSN. Immediately after obtaining his degree, Suraj started an E-commerce venture titled Myiconichome (now APSiconichome). It is a firm aimed at providing interior designing solutions to domestic customers. Within the next three years, he expanded the company to supplying brick and motor, and several

other equipments for home furnishing. Following the success in home décor, Suraj then delved into the domain of finance. He is currently working alongside his family as an associate analyst in Acsys Investments, a company investing in private equity, debt, and start-ups. Acsys is the original founder of Computer Age Management Services Limited (CAMS), India's largest and only listed Registrar and Transfer Agent for Mutual Funds.

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Name of the event: MS meet-up - Germany

Date: 19 - 12 - 2021

Number of attendees: 25

Faculty coordinator: Dr. C. Arun Prakash

Student coordinators: A Sabareesh, Mohanraj A, Biju R, Sricharan S (III Year)

Alumni: Mohan Sunderam

On the 19th of December, the Alumni association of the mechanical department conducted a guidance session to make the students from the second, third, and fourth years, aware of the entire process of studying MS in Germany. The session was headed by MR. Mohan Sunderam who was an alumnus from the 2012-2016 batch. Mohan has worked as a Maintenance Engineer at MRF (2016-2017) and Operational consultant at Uber Eats (2017-2018). He then obtained his master's degree from the Technische Hochschule Ingolstadt, Germany. Currently working in Munich, Germany as a radar engineer with Alten GmbH, Sundaram is assisting various automotive OEMs based out of Munich and Ingolstadt.



Mohan started off the session with a self-introduction and then moved on to talk about further career options after a bachelor's degree. He also shared some important aspects to be considered before choosing a career path. After this, he made a quick comparison between Europe and the US/Canada as a destination for doing MS. Here he highlighted some of the reasons why students prefer European countries over others and one of the primary reasons was the tuition fee. Then some of the difficulties faced by the students were highlighted too and the important one was that each country has its language.

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Post this, the session was mainly focused on MS in Germany. Mohan explained the types of universities in Germany and some of the advantages of studying in Germany.

Then, there was a detailed discussion about the admission process such as CGPA equivalent in Germany, requirement of GRE, IELTS & TOFEL scores, SOP, LOR VPD. One of the important points to note here is that one should be cautious about the medium of instruction in the university and ensure to select one which is most suited for him/her. One must do their own due diligence before selecting a university.

Finally, he shared his MS journey and what can one expect after they move to Germany for their MS studies. The meet-up ended with a Q&A session where Mohan answered every one of it with patience.

SSN Mohan Sunderam MS Session.pdf - ppt used by Mr. Mohan

Time to give back 😂

Dear Alumni, Warm Greetings!! Wish you a happy New Year!

The contribution from Mechanical towards Alumni Scholarship is always very less when compared with other departments. It is not about how much money you give. It's about the thought to give back and the number of students willing to give back. So even Rs. 50 from your side may help the education of someone. I request you to contribute at least the minimum amount you can. Also pass on the message to your friends and encourage them to contribute.

For contribution click:

https://ssn.almaconnect.com/donations/ssn-alumni-scholarship-scheme-2021

Click here to know more: https://www.ssn.edu.in/alumni-alumni-scholarship/

Points to note:

- 1. There is no minimum limit set on a contribution.
- 2. All contributions are 100% exempt under section 80G.
- 3. The contribution will be used only for the scholarship scheme and not for any other purposes.



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Research news & Forthcoming events

Project Proposal Submission

Optimal Water Use in Industrial Sector-2021

Last date for submission of the project proposal: **10-Jan-2022** <u>https://dst.gov.in/sites/default/files/Optimal%20Water%20Use%20in%20Industrial%20Sector</u> <u>-2021.pdf</u>

India Philippines Joint Call for R & D Proposals

Last date for submission of the project proposal: **17-Jan-2022** India Philippines Joint Call for R & D Proposals | Department Of Science & Technology (dst.gov.in)

Call for Ignition Grants titled "Technology-based Energy Solutions: Innovations for Net Zero"

Last date for submission of the project proposal: **22-Feb-2022** <u>https://dst.gov.in/sites/default/files/Innovations%20for%20Net%20Zero.pdf</u>

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-ukindia-covid-19-partnership-initiative



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Conference with Scopus/SCI Publication

International Conference on Processing and Characterization of Materials

ICPCM - 2022

ICPCM 2022 (google.com)



<u>https://apply.ssn.edu.in/</u>

pgadmissions@ssn.edu.in Phone: 044 - 2441 1656 / 2441 6474



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Inspiring Life Stories

Parable of the Pencil

The Pencil Maker took the pencil aside, just before putting him into the box.

"There are 5 things you need to know," he told the pencil, "Before I send you out into the world. Always remember them and never forget, and you will become the best pencil you can be."

One: "You will be able to do many great things, but only if you allow yourself to be held in someone's hand."

Two: "You will experience a painful sharpening from time to time, but you'll need it to become a better pencil."



Three: "You will be able to correct any mistakes you might make."

Four: "The most important part of you will always be what's inside."

Five: "On every surface you are used on, you must leave your mark. No matter what the condition, you must continue to write."

Now replacing the pencil with you, if you remember these lessons and never forget them, you will become the best person you can be.

Moral: You are special. Only you can fulfil the purpose for which you were born. Source: <u>Parable of the Pencil - Short Stories for Kids (kidsworldfun.com)</u>

Pic source: <u>Can You Sharpen a Pencil Without a Sharpener and a Knife? by WoW</u> <u>Pencils: Listen on Audiomack</u>

Corporate Wisdom

From the desk of Ramki -- Aspire to Inspire

Happy Morning

If two people are trying to climb a mountain together, what is the most important things they need to get to the top? Is it,

- Equipment
- Training
- Teamwork
- Favourable weather conditions
- Fitness





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Well, they need all of these for sure. But the most important thing is the MOUNTAIN itself, they need a clear GOAL!

Too often, we get obsessed with the equipment and the training but have no clear goals. The best mountain climbing equipment is of little use if you don't have a mountain to climb.

We are all very fortunate. We have the most fabulous equipment there is. We have access to training. And there are colleagues out there, waiting to help us succeed. But we need to have our own mountains. Our own goals.

When you have you own mountain to climb, everything changes.

- You get your sense of purpose
- You begin to want to climb that peak.
- You become disciplined.
- You get up early.
- You brave the cold.
- You watch your diet.
- You seek out experts.
- You read the books

All because you have a mountain to climb and a peak to conquer.

Equipment, Skills, Competence, Training everything comes later depending on the mountain you want to climb.

So instead of complaining about your equipment or your training and worrying about buying more sophisticated gadgets, set your goals first. Ask questions "what is that I want" and next one "How do I get there? Get the answers for these.

Next thing take time and write down your goals today.

"The best mountain climbing equipment is of little use, if you don't have a mountain to climb.

#WishingMostAndMore Have a great week & Wonderful day! R. Ramakrishnan Email: <u>r.ramakrishnan@gmrgroup.in</u>



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