



Resonance

Newsletter of Mechanical Engineering

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Message from Head of the Department

Season's Greetings!

Dear Colleagues,

Warm greetings and best wishes to you and your family!!

It has been an interesting and busy semester for members of the Department. I would like to thank all my colleagues for their tireless efforts to promote the department progress. Overall, a lot of activities/achievements were witnessed between May to December 2019. To highlight 67 journal articles, 9 patents, and 10 book chapters were published. In addition, 26 international conference presentations were made by our members. I am happy to share that our members started receiving funds and sponsorships from various agencies to do research and attend conferences as a good initiation. To enrich our knowledge in recent advancements 13 FDP's with various expert talks were organized. To enhance industry-academic activities, 12 industry visits and various interaction with industry experts were arranged.

In student perspective, the teaching learning must end with better opportunities. In this regard, we are very happy in fulfilling their desire by providing wonderful campus placements to our students. Student is our real strength, this academic year a total number of companies visited 71 out of which 31 are mechanical engineering core. We offered 72.4% campus placement for our mechanical engineering students till date. In addition, they have also contributed significantly to our research achievements. Three of our members who recently awarded Ph.D., in Mechanical Engineering, I congratulate the students/research scholars and wishing the remaining for the great success. Also, I appreciate and thank faculty members, staff members, various committee/association coordinators, professor in-charges, and division heads for their wonderful support to department administration. We are really proud of being a part of Directorate E&T, I am extremely thankful for the admirable timely guidance and constant encouragement and also support given by our beloved Director E&T and SRM IST management.

I greatly appreciate your interest, involvement with true spirit in departmental activities and also I look forward to your continued support for ever.

"If you go out without a plan, you will return home without any achievement." Stated by Awolunate Samuel.

Let us pre-plan our own activities systematically to achieve greater heights in short time span.

Hence, I am requesting you to support various committees systematically constituted for the betterment of the department.

Wishing you and your family good health and a wonderful new year 2020.

Dr S. Prabhu,
Professor & Head



Congratulation - Ms. Shilpa Thakur [2nd year M. Tech – Robotics]

- Chairman's Award, 1st Prize @ Texas Instruments, DST, IIMB, My Gov. IICDC 2018
- First in South Zone @ AAKRUTI 2019 by Dassault Systems, Solid Works.
- Top 4 in National Level @ AAKRUTI 2019 by Dassault Systems, Solid Works
- TEDx Tech Room Speaker @ BIT Bangalore 2018
- Gold Medallist @ University Research Day Paper Presentation 2019

Ph.D. Awarded

- **Dr. Shubrajit Bhaumik** awarded Ph.D., in Mechanical Engineering on 5th July 2019 by SRM Institute of Science and Technology, Kattankulathur, Chennai. Thesis: Tribological performance of micro and nano friction modifiers in mineral oil and castor oil.
- **Dr. T. Geethapriyan** awarded Ph.D., in Mechanical Engineering on 8th August 2019 by Anna University, Chennai. Thesis: Influence of coated tool electrode in electrochemical micromachining of Inconel 718 alloy.
- **Dr. I. Infanta Marry Priya** awarded Ph.D., in Mechanical Engineering on 20th September 2019 by SRM Institute of Science and Technology, Kattankulathur, Chennai. Thesis: Mechanical characterization of bi-axial Glass Fibre Reinforced Composites.

Project Accepted

- **Dr. Shubrajit Bhaumik** received a project titled "Investigation and Selection of Grease to withstand the application load until the product life, meeting the overall product performance characteristics" from Rane NSK Steering System, Guduvancherry. Project duration: September 2019 to April 2020. Coordinator: **Dr. U. Mohammed Iqbal**. Total cost of the project: Rs. 70,000/.
- **Dr. Shubrajit Bhaumik**, received the project from Alroko and Otsuka chemicals, Japan has confirmed the project which will be carried out in our Tribology Laboratory. Title of the project: "Investigating the tribological properties of potassium titanate additives in mineral oil". The material worth of USD 30,000(Rs.21,20,000) will be supplied by Alroko free of cost to us for the project.

MoU Signed

- MoU signed between SRMIST and Gheorghe Asachi Technical University of Iasi (TUIASI), Romania for development and collaboration of research projects, SAP, professional course training, FAP program etc., Coordinator: **Dr. Shubrajit Bhaumik**.

Sponsorship Received

- Science & Engineering Research Board (SERB) sponsored Rs. 1,00,000 /- to conduct Six-days' workshop on Industrial Tribology, 23-27 September 2019. Coordinator: **Dr. Jitendra Kumar Katiyar**
- **Dr. S. Manikandan** received financial assistance from Science & Engineering Research Board (SERB) to participate the 38th International Conference on Thermoelectrics and the 4th Asian Conference on Thermoelectrics, South Korea. (Conference date: 30-06-2019 to 04-07-2019).

International Internship

- **Mr. Rajdeep Mukherjee & Mr. Aditya Raj Gupta**, Final year Mechanical Students received internship opportunity at Tribology Research lab, SUNWAY University, Malaysia during December 2019 to January 2020. Arranged by **Dr. Shubrajit Bhaumik** through MoU.
- **Mr. Ashwin Sahasranaman**, Final year mechanical student received internship opportunity at Dublin City University, Ireland in the area of CFD analysis during November 2019 to February 2020 under the Guidance of Dr. S. Senthilkumar.

Awards

- **Best Participating College** has been awarded to SRM Institute of Science and Technology, Kattankulathur, Chennai, India, given by Honourable CEO of 3DPLM, Dassault Systems R&D in India, the event (Aakruti 2019- National Level Product Design Challenge) conducted by Dassault Systems Solidworks Corporation, India. Ms. Shilpa Thakur [2nd year M. Tech – Robotics] received the award on behalf of SRM IST, Kattankulathur.
- **Ms. Shilpa Thakur** [2nd year M. Tech – Robotics] received The First Prize, Chairman's Award for the Best Innovation and Technological Impact for having developed the Plasma Carburization Inkless Printing Technology that can print on paper without using any kind of toxic, consumable and expensive inks or toners was presented by the Hon'ble Chairman of AICTE, Prof. Anil Dattatraya Sahasrabudhe at the Finals of the India Innovation Challenge Design Contest (IICDC) 2018 conducted by Texas Instruments, DST India, IIM Bangalore and My Gov. India.
- **Ms. Shilpa Thakur** [2nd year M. Tech – Robotics] team selected to be amongst the national Top 10 teams and First in South Zone at the Zonal level of AAKRUTI for finals to be held on 3rd October 2019 at Pune after being filtered from 4932 Students Nation-wide for AAKRUTI 2019 conducted by Dassault Systems, Solid Works. Prize Money: Rs. 10,000/-.
- **Ms. Shilpa Thakur** [2nd year M. Tech – Robotics] team developed the Sewage Battery System which got selected among the top four winning teams among the national top 10 teams for AAKRUTI 2019 conducted by Dassault Systems, Solid Works. Encouragement Award: Rs. 20,000/-.
- **Dr. M. Cheralathan**, received an Award from the SAE India Southern Section under the category of recognition of "Extraordinary Contribution" on 24th June 2019.
- **Dr. S. Murali** received an Appreciation Award from the SAE India Southern Section under the category of recognition of "Contribution to ADMMS as reviewer" on 24th June 2019.
- **Mr. J. Daniel Glad Stephen** received Best Poster presentation award in Dr. Parivendhar Research Colloquium, SRM IST, 23-25 September 2019.
- **Mr. D. Raja** received Best Poster presentation award in Dr. Parivendhar Research Colloquium, SRM IST, 23-25 Sep. 2019.
- **Mr. D. Premnath** received Best Poster presentation award in Dr. Parivendhar Research Colloquium, SRM IST, 23-25 Sep. 2019.
- **Mrs. V. Praveena** received Best Poster presentation award in Dr. Parivendhar Research Colloquium, SRM IST, 23-25 Sep. 2019.
- **Mr. V. Thirunavukkarasu** received Best Poster presentation award in Dr. Parivendhar Research Colloquium, SRM IST, 23-25 Sep. 2019.
- Our NSS of SRMIST contributed "Red Ribbon Club" in engaging and mobilizing youth to prevent and control HIV/AIDS for the National AIDS control program, certificate of recognition given by the National AIDS control organization, Ministry of Health and Family welfare, Govt. of India. Coordinator: **Dr. T. Rajasekaran**.

Consultancy Work

- Five days training program on "Mechatronics and Automation with Lab Components" to NIFT, Chennai. A total of eight faculty of NIFT got benefited. June 2019. Consultancy Amount: Rs. 1,03,840 /-. Coordinator: **Dr. S. Prabhu & Dr. S. Murali**.
- Eight days training program on "Mechatronics and Automation with Lab Components" to NIFT, Chennai. A total of 45 students of NIFT got benefited. September 2019 to October 2019. Consultancy Amount: Rs. 99,840 /-. Coordinator: **Dr. S. Prabhu & Dr. S. Murali**.



Internship offered to other institution students

- Mr. Ragland AsirKannagaraj, B. Tech Mechanical, NIT, Trichy has done 15 days internship on “Experimental Investigation of Alternative Fuels and Carbon Capture System for SI Engine” in our department under **Dr. G. Balaji**.
- Mr.G.Sriram, Third year diploma student of Vignesh Polytechnic college, Thiruvananthapuram has successfully completed 15 days(18th Nov. to 6th December 2019) internship program in our Department.

Alumni Talk

- Mr.VishwaMihir Pannala, Senior Engineer, Lean SCM, Wabco India. Alumni [2013-2017 batch] given an invited talk on “Supply Chain Management in Automotive Industry” on 30-08-2019. Also, Interacted with B. Tech students.



Credit Course Conducted

- **Dr. Tapan Bagchi**, Adjunct Faculty, Department of Mechanical Engineering, SRM IST & IIT Kharakapur & IIM Lucknow conducted a six days' 2 credit course on “Six Sigma” during 16-09-2019 to 21-09-2019.



Skill Development Program

- A Training on ‘CNC Programming and Machining’ was conducted between 24th and 25th June 2019 for our Machine shop technicians by M/s Siemens Application engineer Mr.Nagaraju. Coordinator: **Mr.Shakthivel**.
- Two of our technicians, Mr. R. Vasu and Mr. S. Ganesan were attended TTT - Train the Trainer Turning Sinumerik 828D/840Dsl operate, at M/s Siemens, Digital Experience and Application center, Bangalore from 18-11-2019 to 22-11-2019.



New Equipment Added

- Composite Materials Laboratory added with new "Compression Moulding Machine" and "HoT Press". Demonstration was completed on 25-09-2019 and 04-10-2019, respectively.



Expert Talk

- Dr. Y. DomicRavichandran, Professor, Department of Organic Chemistry, Wollega University, Nekemete, Ethiopia given a guest lecture on "Recent Trends in Nano Composites" on 20-09-2019
- Mr. K. Vasudeva Rao, Head of Corporate Manufacturing & Development, Rane Brake Lining Limited, Ambattur given a technical talk on "Role of Mechanical Engineers in the Industry" on 01-10-2019.
- Mr. M. S. IlharUI Hassan, M/s Kemppt India Pvt Limited, given a technical talk on "Kemppt Welding products and equipment's" on 06-09-2019.
- Mr. C. Harikrishna, M/s Kemppt India Pvt Limited, given a technical talk on "Kemppt Welding products and equipment's" on 06-09-2019.
- Mr. G. Sritharanandh, M/s Kemppt India Pvt Limited, given a technical talk on "Kemppt Welding products and equipment's" on 06-09-2019.
- Mechanical Engineering Association conducted a technical talk on the topic "Role of Mechanical Engineers in the Industry" on 1st October 2019. Mr. K. Vasudeva Rao, Head of Corporate Manufacturing & Development, Rane Brake Lining Limited, Ambattur was delivered the talk.
- Dr. Ashish Kumar, Post-Doctoral Research Fellow, Max-Planck-Institut für Eisenforschung, Germany, given a technical talk on "In situ micro fracture testing of elasto plastic materials: a case study on polycrystalline tungsten" on 18.12.19.

Guest Lecture Delivered

- **Dr. Jitendra Kumar Katiyar** given a guest lecture in FDP "Green Tribology- Design of biodegradable cutting fluids, composite materials and environment friendly lubricants for industries" scheduled on 06 -10 May, 2019, at MIT Moradabd, UP, sponsored by AKTU.
- **Dr. S. Prabhu** given a guest lecture in FDP program on Robotics with Titled "Robot Programming" at Sairam Engineering college, Chennai on 14-5-2019.
- **Dr. M. R. Stalin John** given a guest lecture in FDP program on Robotics with Titled "Artificial Intelligence" at Sairam Engineering college, Chennai on 17-05-2019.
- **Dr. R. Deepakkumar** given a guest lecture on "CFD Approaches in Flow over Structure" in a two days' Workshop on "Application of Computational Fluid Dynamics for Underwater Vehicle", organized by Hindustan Institute of Technology & Science, Padur, Chennai, 18-19 July 2019.
- **Dr. Shubhabrata Datta** given an Invited talk to International conference on, "Synthesis, Characterization and Application of Nano materials (SCAN)" IEST, Shibpur during 1-2 November 2019.
- **Dr. T. Rajasekaran**, given a Guest lecture on the Topic "Advances in FEA" in 6 days FDP program on "FEA" by Sri Sai ram Institute of Technology, Chennai on 19.11.19.
- **Dr. S. Madhavan**, given an Invited talk on "Characterization techniques for Nanotechnology" for the workshop on "Nanotechnology- Mechanical Engineering perspective" at St. Joseph college of Engineering, November 30th 2019.
- **Dr. Shubrajit Bowmick**, given a Keynote Lecture on "Role of Surface Textures on Friction and Wear under Starved lubrication Regimes" at 4th Railway Brake and Friction Conference, organized by Brake Friction Committee, UK and hosted by Centre for Automotive Materials, Department of Automobile Engineering, SRMIST on 11th December 2019.

Industry visited

- **Dr. Shravan Kumar** visited TAFE, Product training centre, Pudupakkam, Chennai under FIIP program during 06-06-2019 to 21-06-2019.
- **Dr. S. Madhavan** visited Lincoln Electric Company India Pvt Ltd, Mahindra city, Chennai on 23-9-2019 for Research Collaboration, MoU and to start M.Tech (Welding) course.
- **Dr. Harshavardhana** visited M/s Kemppli India Pvt Limited, Neelankarai, Chennai on 24-10-2019 for Research Collaboration and MoU.
- **Dr. S. Prabhu, Dr. Mohammed Iqbal, Dr. S. Murali** visited Rane NSK Steering Systems Pvt., Ltd., Guduvancherry on 17-July-2019 for Possible Research Collaboration (Mechanical and another department); One credit course and specialization; Student Placement; Corporate advisory board (CAB)
- **Dr. P. Mohan Babu**, Research Assistant Professor, visited INDAlD engineers, Industry(Furnace company), Chennai and SIDCO industrial estate on 12th November 2019.
- **Mr. S. Muralidharan**, AP(O.G) visited Rane NSK Steering Systems Pvt. Ltd., under FIIP program during 9th December 2019 to 21st December 2019.
- **Mr. N. Karthikeyan**, AP(O.G) visited KONE Elevators, Chennai under FIIP program during 3rd December 2019 to 16th December 2019.
- **Dr. Harshavardhan**, AP(O.G) visited M/s Kemppli Ltd., Chennai under FIIP program during the vacation period.
- **Dr. S. Madhavan**, AP(O.G) visited the Fronius Welding Ltd, Chennai under FIIP program during 5.12.19 to 17.12.19.
- Air Force Station, Tambaram on 09-07-2019. Participated: 24 Students and 5 Faculty Members.
- Renault Nissan, Oragadam Industrial Area on 12-07-2019. Participated: 24 Students and 2 Faculty Members.



Open House Conducted

- A group of 60 students and 10 faculty members from J. V. M. Matriculation Higher secondary school, Rasipuram visited our Department on 12-07-2019 and witnessed our facilities and interacted with our faculty.
- A group of 45 students and 2 faculty members from Mahindra World City School, Mahindra City visited our Department on 21-08-2019 and witnessed our facilities and interacted with our faculty. This event was organized by ASME student chapter.



FDP/Workshop Conducted

- Two days' workshop on "Stir Casting and Solid State Welding" July 29-30, 2019. Coordinator: **Dr. A. Razal Rose.**
- Two days' workshop on "Research Advances in Computational Techniques for Characterizing Nanomaterial's" August 23-24, 2019. Coordinator: **Dr. G. Rajasekaran, Mr. S. Arunprasath.**
- Three days' workshop on "Basics of Bio Mechanics using Finite Element Analysis" August 21-23, 2019. Coordinator: **Mr. D. Raja, Mr. P. Susai Manickam, Mr. S. Balamurugan.**
- Three days' workshop on "Advanced Finite Element analysis" September 04-06, 2019. Coordinator: **Dr. P. V. Jeyakarthikeyan, Mr. Sodisetty VNB Prasad.**
- Five days' workshop on "Optimization Techniques in Engineering Design and Applications" September 09-13, 2019. Coordinator: **Dr. P. Nandakumar, Mr. A. Vinoth.**
- SAI CAD Center, the authorized training center of AUTODESK software in India conducted two days Faculty development program on "The Future of Making Things by AUTODESK FUSION 360" during 30-31st Oct 2019. Coordinator: **Mr. Sodisetty VNB Prasad.**
- AICTE-INAE Distinguished Visiting Professor of our department, **Prof. Ranjit Ray**, conducted 3 days' workshop on "Crystallography and crystallographic texture" during 16.9.19 to 18.9.19. Coordinator: **Prof. Shubhabrata Datta and Mr. Aatthisugan.**
- A Five Days' DST-SERB sponsored workshop on Industrial Tribology (IT) 2019, 23rd to 27th September 2019. DST-SERB sponsored= Rs.1,00,000/- . Coordinator: **Dr. Jitendra Kumar Katiyar.**
- Two days' Workshop on "Recent Trends in Sustainable Green Manufacturing", was conducted during November 18 & 19, 2019, Coordinator: **Dr. U. Mohammed Iqbal, Dr. Geethapriyan and Mr. Santhakumar. J.**
- Two days workshop on "Recent Trends in Metal Additive Manufacturing" was conducted during November 18 & 19, 2019, Coordinator: **Dr. Harshavarshan, Dr. Madhavan.**
- Five days FDP on "Recent Advances in Solar Energy Research" was conducted during 25-29th November 2019. Coordinator: **Dr. M. Cheralathan and Dr. S. Manikandan.**
- Two Days Workshop on "Promoting Academic Research for Journal Publication, Patent and Funding Proposals" was conducted during 28th- 29th, November 2019 supported by Innovation cell MHRD, Government of India, Coordinator: **Dr. T. Lakshmanan, Dr. T. Geethapriyan and Dr. M. Prakash.**
- Two Days Workshop on "Advances in IC Engine Research" was conducted during 16 & 17th December 2019. Coordinator: **Dr. G. Balaji, & Dr. T. Lakshmanan.**

Patent Published/Filed

- **Dr. ShubrajitBhaumik, Dr. ShubhabrataDatta**, Behanan Roy Mathew. "A composition and method for preparing a lubricant blend with multiple vegetable oil sand additives" Patent application #201941004518. Status: Published on 28-06-2019.
- **Dr. M. Prakash**. "Smart tool control with effective sensing" Patent application # 201941030664. Status: Published on 09-08-2019.
- **Mr. D. Kumaran**, A. Rajadurai, K. Padmanaban. "A process for manufacture of polymer fibre reinforced metal matrix composite and product obtained therefrom" Patent application #201841011328. Status: Published on 04-10-2019.
- **Mr. C. H. Vasanth kumar** Choda, anshu raj, Prabhat rathi, Karan gupta and Saurav vaja, filed patent titled "a vacuum gripper for lifting objects", on 13.11.19, patent application no.: 201941046159.
- **Mr. V. Magesh**, Harikrishnan pandurangan, **Dr. Kingsly jeba singh.D**, filed patent titled "an orthodontic bracket slot deformation testing system (obsdts) and applications thereof", on 27.11.19, patent application no.: 201941048614.
- Saha, meghamalhar, **Dr. Sandipan roy**, Balakrishnan gowtham, filed patent titled "Air intake system of an internal combustion engine", on 29.11.19, patent application no.: 201941047186 A.
- **R. Senthil Kumar** and Ashwin Mahendra [Passed out B.Tech. Mechanical], "Geometric Optimization of Electronic Component for Effective Heat Transfer" Application No.201941042257 A. Published on 1/11/2019.
- **R. Senthil Kumar** and Ashwin Mahendra [Passed out B.Tech. Mechanical], "Shape Modification of Electronic Components for Mass Optimization" Application No.201941042259 A. Published on 1/11/2019.
- **R. Senthil Kumar** and Mridul Ranjan Upadhyay [Final year B.Tech. Mechanical], Nishchay Sachdeva [Final year B.Tech. Mechanical], "Thermal management system for Li-Ion battery pack at different climatic conditions", Application no.201941047243 A. Published on 6/12/2019.

Journal Paper Publication

- **Santhakumar J**, and **Mohammed Iqbal U**. Parametric Optimization of Trochoidal Step on Surface Roughness and Dish Angle in End Milling of AISID3 Steel Using Precise Measurements. Materials. 2019 Jan; 12(8):1335. MDPI Publishers, ISSN 1996-1944, Impact Factor: 2.467.
- **Manikandan S, Selvam C**, Praful PP (Alumni of B.Tech Mechanical Engineering, SRM IST), Lamba R, Kaushik SC, Zhao D, Yang R. A novel technique to enhance thermal performance of a thermoelectric cooler using phase-change materials. Journal of Thermal Analysis and Calorimetry.:1-2. Springer Publications, Impact Factor: 2.209.
- Elsen SR, **Jegadeesan K**, Aseer JR. A Comparative Study of Flow Characteristics of BMW M6 and AUDI R8 Commercial Sports Car Using Flow Design Software. Lecture Notes in Mechanical Engineering, In Advances in Manufacturing Technology 2019 (pp. 243-253). Springer, Singapore., SNIP: 0.212
- **Vamsi Krishna Dommeti, D.Raja**, ShantanuPatil, Sridhar Krishnamurthy, **Sandipan Roy**. Human Skin Expansion Using Circular Implants: A Finite Element Study. Journal of Long-Term Effects of Medical Implants. 2019;29(1). SNIP: 0.491
- W Rashmi, M Osama, M Khalid, AK Rasheed, **S Bhaumik**, W. Y Wong, **S Datta** & Gupta, "Tribological performance of nanographite-based metalworking fluid and parametric investigation using artificial neural network", The International Journal of Advanced Manufacturing Technology, Published online 1st June 2019. Impact Factor: 2.601.
- **Bhaumik S**, Pathak SD, Dey S, **Datta S**. Artificial intelligence based design of multiple friction modifiers dispersed castor oil and evaluating its tribological properties. Tribology International. 2019 Jun 9. Impact Factor: 3.246.
- **G Balaji**, Utkarsh Arora, SauravDasgupta and SiddhantMund, "Individual effects of antioxidant additive and SCR system on the NOx reduction of a CI engine powered by cottonseed oil blend", published in IOP Materials Research Express. Impact Factor: 1.449.
- **Mohammed Iqbal, U., Muralidharan, S.**, 2019 "Optimization of Die design parameters and experimental validation on Twist Channel Angular Pressing Process (TCAP) of AA6061-T6 Aluminium alloy" Materials Research Express, 6 (8), August 2019, IOP Publishing Ltd., Impact Factor: 1.449.
- **R.Senthilkumar, M.Prakash, N.Arun, A.ArulJeyakumar**, "The effect of the number of passes in friction stir processing of aluminum alloy (AA6082) and its failure analysis, Applied Surface Science, Volume 491, 15 October 2019, Pages 420-431. Impact Factor: 5.155.
- **Rajasekar V**, Geo VE, Martin LJ, Nagalingam B. The combined effect of low viscous biofuel and EGR on NO-smoke tradeoff in a biodiesel engine—an experimental study. Environmental Science and Pollution Research. 2019 May 26:1-3. Impact Factor: 2.914
- **Ambigai.R, Prabhu.S**, "Fuzzy logic algorithm based optimization of the Tribological behavior of Al-Gr-Si3N4 Hybrid composite", Measurement, Vol.146, Pp.736-748, 2019, DOI: <https://doi.org/10.1016/j.measurement.2019.07.025>, Impact factor 2.791, Elsevier.

- **A.Vinoth, Dr.ShubhabrataDatta**, "Design of the ultrahigh molecular weight polyethylene composites with multiple nanoparticles: An artificial intelligence approach", Journal of Composite Materials", SAGE Publication, Impact Factor. 1.755.
- **Dr. C. Selvam, Dr. S. Manikandan**, Prof. S.C. Kaushik, Dr. RavitaLamba, Dr. S. Harish, "Transient Performance of a Peltier Super Cooler under Varied Electric Pulse Conditions with Phase Change Material ", in the Journal of Energy Conversion and Management, Elsevier Publications, Impact Factor of 7.181.
- Rahul Kasan, Bhaskar Krishna Ram saiAttili, **Vamsi Krishna Dommeti**, Ali Merdji, Jayanta Kumar Biswas, **Sandipan Roy**, "Stress distribution of overdenture using odd number implants–A Finite Element Study in Journal of the Mechanical Behavior of Biomedical Materials. Elsevier, Impact factor: 3.485, SNIP :1.48
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- Arun Kumar, **DeepanBharathiKannan T**, Sathiya p, "Optimization, characterization and heat treatment of TIG-welded AA2219-T87 alloy", Emerging Materials Research, Sci Indexed, 8(3), pp. 1–7, Online 10 June 2019, Impact factor :0.330.
- **T.DeepanBharathiKannan**, B.Suresh Kumar, G.RajeshKannan, M.Umar, and Mohammad Chand Khan, "Application of Genetic Algorithm Technique for Machining Parameters Optimization in Drilling of Stainless Steel", Mechanics and Mechanical Engineering, SNIP : 0.698.
- K.R.Sampreet, VasareddyMahidhar, Rajesh Kannan, Arunagiri, **T. DeepanBharathiKannan**, Optimization of parameters in Nd:YAG laser welding of Ti-6Al-4V using TOPSIS, Materials Today Proceedings, SNIP : 0.694.
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- **R.Senthil and M.Cheralathan**, Enhancement of the thermal energy storage capacity of a parabolic dish concentrated solar receiver using phase change materials, Journal of Energy Storage, Vol. 25, 2019. Impact Factor: 3.517. (SCIE, Elsevier).
- Subhomoy Chatterjee, Swati Dey, SantanuMajumder, Amit RoyChowdhury and **ShubhabrataDatta**: Computational intelligence based design of implant for varying bone conditions – Int. J. Numerical Methods in Biomedical Engineering, Vol. 35 (2019), e3191. Impact Factor: 2.082, Wiley publication.
- SumanGhosal, Swati Dey, Partha Bhattacharyya, ParthaPratimChattopadhyay and **ShubhabrataDatta**: Data-driven design of ternary alloy catalysts for enhanced oxide-based gas sensors performance – Computational Materials Science (Editor's Choice), Vol. 161 (2019), pp. 255-260. Impact Factor: 2.644, Elsevier.
- Tanusree Dutta, Debdulal Das, Siddhartha Banerjee, Sanjoy Kumar Saha and **ShubhabrataDatta**: An automated morphology-based classification of ferrite-martensite dual-phase microstructures – Measurement, Vol. 137 (2019), pp. 595–603. Impact Factor: 2.791, Elsevier.
- Keren Evangeline, Angeline kirubha and **D Raja**, "Finite element analysis of biconcave fracture in thoracolumbar region of spine", July 2019, Journal of International Pharmaceutical Research,Scopus Indexed, SNIP:0.035.
- Prithvi Krishna C, **Vasanth Kumar CH**, "Convolutional Neural Network Based Path Navigation of a Differential Drive Robot in an Indoor Environment", International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, Volume-8, Issue-2S3, July 2019.Scopus Indexed.
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Book / Book Chapter Published

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- “Engineering Thermodynamics” authored by the Editors: **Dr. Pankaj Kumar** and **Dr. Jitendra Kumar Katiyar**. Published by Khanna Publishers, Delhi 2019.
- **ShubrajitBhaumik**, Chiradeep Ghosh, Basudev Bhattacharya, ViorelPaleu, Rajeev Kumar Naik, PrayagGopinath, A. Adithya and AnkurDhanwant, “Influence of Surface Texturing in Controlling Friction and Wear,” Springer Nature Singapore Pte Ltd. 2019, J. K. Katiyar et al. (eds.), Automotive Tribology, Energy, Environment, and Sustainability.-Collaboration with Tata steel.
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- **D. Kumaran**, K. Padmanabhan, and A. Rajadurai . “High Performance Polymer Fibre-Metal Matrix Composites of Metal-Organic Frameworks - Metallization, Processing, Properties and Applications”, Metal-Organic Framework Composites, Volume I, Materials Research Forum LLC Millersville, PA 17551, USA, Pp. 105
- **Jitendra K. Katiyar**, Dr. P Ramkumar (IIT Madras), **Dr. T V V L N Rao** (SRMIST), Prof J. Paulo Davim Portugal, “ Tribology in Materials and Applications”, Springer, March 2020.
- **Murali Subramaniyam**, Kishore Kumar, **Dinesh Shanmugam**, Dong Joon Kim, Kyung-Sun Lee, Se Jin Park, Seung Nam Min. "Assistive Technologies for Elderly - Review on Recent Developments in Lower Limb and Back Pain Management. In: Ahram T., Falcão C. (eds) Advances in Usability and User Experience. AHFE 2019. Advances in Intelligent Systems and Computing, vol 972. pp. 824-830, Springer, Cham (Scopus) SNIP:0.434 Book Chapter.
- Vignesh, U. **Mohammed Iqbal**, ‘Experimental Investigation on Machining Parameters of Hastelloy C276 Under Different Cryogenic Environment’, M. S. Shunmugam and M. Kanthababu (eds.), Advances in Forming, Machining and Automation, Lecture Notes on Multidisciplinary Industrial Engineering, Chapter 20, pp. 261-275. Publishers-Springer Nature Singapore Pte Ltd. 2019, https://doi.org/10.1007/978-981-32-9417-2_20.
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- V. Dhinakaran, **Jitendra Kumar Katiyar** and T. Jagadeesha, Mechanics and Material Removal Modelling and Design of Velocity Transformers in Ultrasonic Machining, In: Satya Bir Singh, Prabhat Ranjan, Alexander V. Vakhrushev, A. K. Haghi (eds), Mechatronic Systems Design and Solid Materials: Methods and Practices. CRC Press, Taylor & Francis Group. 2019.

International Conference Presentation

- **Dr. S. Manikanadan**, “Experimental studies on performance enhancement of thermo electric cooler using Phase change materials”, 38th International Conference on Thermoelectrics scheduled on 30-06-2019 to 04-07-2019, South Korea. He was received the travel assistance from Science and Engineering Research Board (SERB), Government of India.
- Rahul RV and **P Nandakumar**, Optimization Design of Composite Material using Genetic Algorithm for Automobile Leaf Spring, in Proc. of International conference on Numerical Optimization in Engineering and Sciences, (NOIEAS-2019), National Institute of Technology, Warangal, 19 – 21 June 2019.
- **Murali Subramaniyam**, Kishore Kumar [M. Tech student], **Dinesh Shanmugam** [Faculty], Dong Joon Kim, Kyung-Sun Lee, Se Jin Park, Seung Nam Min. "Assistive Technologies for Elderly - Review on Recent Developments in Lower Limb and Back Pain Management. International Conference on Applied Human Factors and Ergonomics (AHFE2019), 24 – 28 July 2019, Washington, DC, USA. This work is supported by the National Research Foundation of South Korea, Project No. NRF2017R1D1A3B03034037. The conference proceeding is Indexed by SCOPUS with SNIP: 0.434
- **Mr.Jegadeesan** and **Dr. C. Shravankumar**, "Analysis of cracked rotor supported on porous Layered Journal Bearing with Gyroscopic effects" orally in 1st International Conference on Mechanical Power Transmission, 11 – 13 July 2019, IIT Madras.
- **T. V. V. L. N. Rao**, Ahmad Majdi Abdul Rani, NoraniMuti Mohamed, Hamdan Haji Ya, MokhtarAwang, FakhruddinMohdHashim, “Stability Evaluation of Magneto hydrodynamic Journal Bearing with Partial Step Slip Texture” at International Tribology Conference Sendai 2019, ITC Sendai 2019, Sendai, Japan, 17 – 21 September 2019.
- **Dr. R. Deepakkumar**, Hemanth. A.V.S.S., Control of flow induced vibration using guider plates, Proceedings of the 4th Indian Conference on Applied Mechanics (INCAM 2019), Paper No. 12, Indian Institute of Science, Bangalore, 3 – 5, July 2019.
- **Dr. G. Balaji**, “Experimental Investigation on an EGR technique and fuel Antioxidant additive in CI engine fuelled with the Blend of Diesel and Plastic Oil for emission reduction”, SAE International conference, ADMMS 2019, MIT, Chrompet, Chennai, 11-12th October 2019.

- D. BhanuPriya, **Murali Subramaniyam**. "State of the art survey on effects of extensive usage of smartphone and methods to analyse muscular disorders" International Conference on Advanced Trends in Mechanical & Aerospace Engineering (ATMA-2019), 7-9 November 2019, DayanandaSagar University, Bangalore, India.
- **Murali Subramaniyam**, Se Jin Park, Kyung-Sun Lee, Seung Nam Min. "Comparison of VOT (Voice Onset Time) on Stroke Patients and Normal Elderly for Stroke Prediction". International Conference on Emotion and Sensibility (ICES 2019), Nov 1 - 2, 2019, Nagano University, Nagano, Japan. (Poster).
- **Shravankumar C**, "Analysis of cracked rotor with Gyroscopic effects supported on textured journal bearings" in ASME Gas Turbine India Conference 2019" held at IIT Madras, during 5-6 December, 2019.
- **Shravankumar C**, "Modal analysis and dynamic responses of a hysteretically damped axle shaft with a transverse crack" in ASME Gas Turbine India Conference 2019" held at IIT Madras, during 5-6 December, 2019.
- Divyang Bhatnagar [Final year B.Tech. Mechanical], Akash Pravinkumar Patel [Final year B.Tech. Mechanical], Shaik Subhani [Second year M.Tech. solar] and **R. Senthil Kumar**, "Numerical Study on Performance Enhancement of a Solar Still by Including Multiple Baffles", International Conference on Sustainable Technologies for Industrial Hazardous Waste Management and Bio energy (STIWMB-2019)" on August 7-9, 2019 at SRM IST, Chennai.
- Ronak Jain S [Third year B.Tech. Mechanical], Shaik Subhani [Second year M.Tech. solar] and **R. Senthil Kumar**, "Numerical Investigation of Single Slope Solar Still with basin containing baffle and optimisation of its height", International Conference on Sustainable Technologies for Industrial Hazardous Waste Management and Bio energy (STIWMB-2019)" on August 7-9, 2019 at SRM IST, Chennai.
- Shaik Subhani [Second year M.Tech. solar] and **R. Senthil Kumar**, "Numerical Investigation on influence of mounting baffles in partitioned sloped solar still", 11th International Exergy, Energy and Environment Symposium [IEEES 11], 14-18 July 2019 at SRM Institute of Science and Technology, Chennai, Paper Id: IEEES 11-164.
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- Varun M [Second year M.Tech. solar], Shaik Subhani [Second year M.Tech. solar] and **R. Senthil Kumar**, "Numerical Investigation of a Single slope solar still with modified stepped basin", International Mechanical Engineering Congress [IMEC 2019], 29th Nov- 1st Dec 2019 at NIT, Trichy, Paper Id: IMEC- 209.
- Divyang Bhatnagar [Final year B.Tech. Mechanical], Akash Pravinkumar Patel [Final year B.Tech. Mechanical], Shaik Subhani [Second year M.Tech. solar] and **R. Senthil Kumar**, "Performance Enhancement of a Solar Still by Including Multiple Baffles with Different Heights and Orders", International Mechanical Engineering Congress [IMEC 2019], 29th Nov- 1st Dec 2019 at NIT, Trichy, Paper Id: IMEC - 210.
- **Senthil Kumar. R**, Ashwin Mahendra [Passed out B.Tech. Mechanical] and Amit Varakhedkar [Final year B.Tech. Mechanical] (2019) "Investigation of blockage effect on pressure drop and forced convective heat transfer from a heated circular cylinder", 11th International Energy, Exergy and Environmental Symposium (IEEES), SRMIST, TN on 14th to 18th July 2019. Paper id: IEEES 166.
- Amit Varakhedkar [Final year B.Tech. Mechanical], Ashwin Mahendra [Passed out B.Tech. Mechanical] and **Senthil Kumar.R** "Numerical study of square cylinder with different downstream profiles", International Mechanical Engineering Congress (IMEC) 2019, NIT Tiruchirappalli, TN on 29th November 2019, Paper id: IMEC 213.
- Nishchay Sachdeva [Final year B.Tech. Mechanical], Ashwin Mahendra [Final year B.Tech. Mechanical] and **Senthil Kumar.R** "Numerical Analysis of Heated Square and Circular Geometries Arranged in Tandem", International Mechanical Engineering Congress (IMEC) 2019, NIT Tiruchirappalli, TN on 29th November 2019, Paper id: IMEC 211.
- Mridul Ranjan Upadhyay [Final year B.Tech. Mechanical], Nishchay Sachdeva [Final year B.Tech. Mechanical], **Senthil Kumar. R**, "Numerical study and Comparison of Heat Transferring Ability of Geometrically Modified Lithium-Ion Cells for Battery Packs.", 11th International Energy, Exergy and Environmental Symposium (IEEES), SRMIST, TN on 14th to 18th July 2019, Paper id: IEEES139.
- Nishchay Sachdeva [Final year B.Tech. Mechanical], **Senthil Kumar R**. "Numerical Analysis on Positioning of Different Geometries for Better Heat Dissipation", 24th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC 2019) 2019, IIT Roorkee, from 28th to 31st December 2019 [Accepted for Oral Presentation].
- **R.K.Barathraj** [Research Scholar], Kapil Dogiparthi [Passed out B.Tech. Mechanical], Vinthanala Siva Prasad [Passed out B.Tech. Mechanical], Vasa Shiva Raman [Passed out B.Tech. Mechanical] and **R.Senthil kumar**, Performance Evaluation of Nanofluids in CuproBraze radiators Dr. Paarivendhar Research Colloquium - 2019 (DPRC-2019) at SRM Institute of Science and Technology, Kattankulathur on 23-SEP-2019.

- Jitendra Kumar Sahu, Ranjeet Kumar Sahu, **Jitendra Kumar Katiyar**, "Study on improvement in geometrical dimensional accuracy of 3D printed parts", International Conference on Precision, Meso, Micro and Nano Engineering (COPEN 2019), Indian Institute of Technology Indore, December 12-14, 2019.
- Vaibhav Singh, P. Ramkumar, Ranjeet Kumar Sahu and **Jitendra Kumar Katiyar**, "Influence of Solid Fillers in Properties of Brake Materials", 10th International Conference on Industrial Tribology (IndiaTrib-2019), Indian Institute of Science Bangalore, December 01-04, 2019.
- **S.Arokya Agustin**, "Analysis of load capacity of texture foil bearing" in 'IndiaTrib-2019' '10th International conference on Industrial Tribology', held in Indian Institute of Science, Bangaluru, December 01-04, 2019.
- **Shubrajit Bhaumick**, "Investigating the tribological properties of dimpled steel surface under lubricated condition", 10th International Conference on Industrial Tribology (IndiaTrib-2019), Indian Institute of Science Bangalore, December 01-04, 2019.

FDP/Workshop attended

- AICTE sponsored short term course on "Industrial Robotics: Automation and Control" held at ECE,IIITDM, Kancheepuram during 26-30th Sept. 2019. Faculty attended: **Mr.Vasanthkumar.CH; Mr. Raghavendrara; Mr. V,Balasudhakar; Mr. C,Vamsi Krishna. D; Mr. Prasad Sodisetty**
- Six days short term course on "Advances in Thermo-fluidics of Multiphase Flows, during 04 – 09 November, 2019" at IIT Madras. Faculty attended: **Dr.R.Senthilkumar; Dr.Pankajkumar; Mrs.V.Praveena**
- **Mr.S.Sampathkumar**, has participated in the FDP program on "Advanced tools and techniques for research engineering problems at NIT,Trichy during 18th-23rd November 2019 under AICTE Margdarshan scheme.
- **Dr.M.Prakash**, participated one day state level workshop on "Intellectual property rights" conducted on 13th December 2019 jointly organized by Tamilnadu state council for science and Technology, Chennai and Mohammed satahk AJ College of Engineering,Chennai.
- **Dr.K.Suresh Kumar, Dr.P.Chandrasekaran and Dr.G.Balaji**, attended the FICCI's TAN-ENERGY SUMMIT 2019 on 6th December 2019 (Friday) at HOTEL FEATHERS, Manapakkam, Chennai.
- **Dr.Arul Jeyakumar**, attended Industry-Academia collaboration meet at L&T on 17.02.2019, Chennai.
- **Mr.V.Magesh, Mr.Bharatraj**, attended Industry-Academia forum on 18.02.2019, Raintree Hotel, Chennai.
- **Dr.T.Rajasekaran**, has participated in AICTE sponsored one week short term training program on "Innovation and research challenges in IOT applications for smart manufacturing and smart design" organized by Sri Ramakrishna Engineering college, Coimbatore during 9.12.19 to 14.12.19.

Mechanical Engineers Association (MEA)

- A technical talk delivered by Mr. K. Vasudeva Rao, Head of Corporate Manufacturing & Development, Rane Brake Lining Limited, Ambattur on topic "Role of Mechanical Engineers in the Industry" on 1st October 2019.

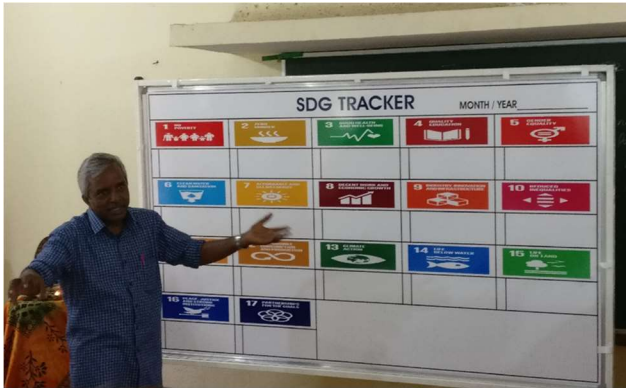
Student Team Activity

- ETROS SOLAREON RACING participated in ESVC Pre-virtuals 2019-20 held in Sreenidhi Institute of Science and Technology, Hyderabad from 19 October, 2019- 20 October, 2019.



ENGINEERS WITHOUT BORDERS SRMIST KTR Chapter

- SRMIEC CONFERENCE 2019
- OUT REACH PROGRAM – KUTHAMBAKKAM VILLAGE & LAKE CLEAN UP DRIVE
- Projects:
 - Cataract Detection Using Deep Learning,
 - LOW COST AGRICULTURAL SPRAYER VEHICLE
 - IMPLEMENTATION OF ATMOSPHERIC WATER GENERATORS IN HOSTELS



Placement Statistics (as on 20-12-2019)

- Number of students placed: 295
- Total number of offers: 412
- No. of Internship offers: 74
- No. of Companies visited: 71
- No. of core companies visited: 31
- No. of non-core companies visited: 40
- Total number of students enrolled: 569
- Percentage of placed as on 20-12-2019: 51.84%
- Percentage of number of offers: 72.4%

ICAME 2020 Invitation



On behalf of SRM Institute of Science and Technology (formerly known as SRM University), it gives me a great pleasure in extending you a very warm invitation to attend the 3rd International Conference on Advances in Mechanical Engineering (ICAME2020) to be held in the Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur. ICAME 2020. February 24-29, 2020.

Convener: Dr. S. Prabhu. <https://www.srmist.edu.in/icame-2020/>

- 3rd International Conference on Advances in Mechanical Engineering (ICAME 2020): 27-29th Feb.
- 1st International Conference on Recent Advances in Composite Materials (ICRACM-2020): 26th Feb.
- Two-day Workshop on Advances in Finite Element Method: 24 - 25th Feb.
- Two-day Workshop on Composites: 24 - 25th Feb.
- One-day Workshop on Design of Experiments: 24th Feb.
- One-day Workshop on Advances in Thermal Systems: 25th Feb.
- Publish peer-reviewed papers in Journal of Thermal Analysis and Calorimetry (JTAC) (ISSN: 1388-6150), SCI Indexed, IF: 2.471. Springer Publication
- Publish peer-reviewed articles in IOP conference series: Material science and Engineering (ISSN: 1757-899X), Scopus Indexed, SNIP: 0.531. IOP Science
- Publish peer-reviewed papers in Journal of Applied Science and Engineering (ISSN: 1560-6686), Emerging SCI & Scopus Indexed, SNIP: 0.289, Tamkang Univ.
- 400 + presentations from around the world. Opportunity to have a meeting and discussion with experts.
- Keynote speakers from distinguished institutes.

We look forward to seeing your gracious presence with active contribution and support to make this event successful. A warm welcome to you all to submit your research papers to icame2020.ktr@srmist.edu.in

Resonance Editorial Board

- Dr. S. Prabhu
- Dr. P. Nanda Kumar
- Dr. S. Murali
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- Mr. Amardeep (Final Year – B. Tech)
- Mr. Aditya Singh (Final Year – B. Tech)