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## **MECHNEWS 2020 - 2021**

### **DEPARTMENT OF MECHANICAL ENGINEERING**

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#### **VISION**

Be a leader in promoting entrepreneurial mechanical engineering education, industry-relevant research and community building.

#### **MISSION**

- Nurture Innovation, Creativity, Entrepreneurial Mindset, and Mechanical Engineering Knowledge in students by implementing novel educational experiences
- Develop effective instructional infrastructure and faculty resources.
- Promote interdisciplinary learning and expertise in the application of Information Technology.
- Contribute to community development and the growth of Mechanical Engineering through service, consulting and research activities

## **PROGRAM EDUCATIONAL OBJECTIVES (PEOS):**

The Mechanical Engineering graduates from S R Engineering College, Warangal are expected to:

**PEO1:** Pursue a career in the field of Mechanical Engineering.

**PEO2:** Continue higher education and/or professional development courses for life-long learning.

**PEO3:** Support community building and economic development through research activities to improve the quality of life.

## **PROGRAMME OUTCOMES (POS):**

**Engineering Graduates will be able to:**

**PO1: Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural science and engineering sciences.

**PO3: Design/Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal and environmental considerations.

**PO4: Conduct Investigations if complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.

**PO5: Modern Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6: The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7. Environment and sustainability:** Understand the impact of the professional engineering solutions of Engineering in societal and environmental contexts, and demonstrate the knowledge of and need for sustainable development.

**PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11. Project management and finance:** Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

### **PROGRAMS SPECIFIC OUTCOMES (PSO)**

**PSO1.** Graduate of the program will achieve excellence in advanced manufacturing systems with latest technologies

**PSO2.** Graduate will expertise in innovative courses, societal and industry oriented courses designed by the eminent faculty of the department.

**PSO3:** Graduate will involve in sponsored projects for motivating research activities

## INTERNATIONAL JOURNALS:

1. "Academic vibrant - maker movement in engineering Education" Pulla Sammaiah, S. Sai Mounika, N. Praveenadevi, P. V. Ramachandrarao.
2. "Experimental investigation on temperature distribution during solid state joining of 5083 aluminium alloy" M. Shiva Chander, M. Ramakrishna, B. Durgaprasad, Materials Today: Proceedings (ELSEVIER), 2214-7853/ 2020, 240-244, 2021.
3. "Thermal performance of natural circulation loop filled with Al<sub>2</sub>O<sub>3</sub>/ Water nanofluid", Praveena Devi Nagireddy, Srinivasa Rao Chalamalasetti, Kiran Kumar Kupireddi., Int. J. Nano Dimens, Int. J. Nano Dimens.
4. 3D Printing Technology for Biomedical Practice: A Review, Pankaj Kumar, Dipen Kumar Rajak, Muazu Abubakar, Syed Gazanfar Mustafa Ali, and Manowar Hussain, Journal of Materials Engineering and Performance, 1059-9495, April-2021.
5. Effect of tool pin geometry on FSW dissimilar aluminum alloys - (AA5083 & AA6061), P. Satish Kumar, M. Shiva Chander, "Materials Today: Proceedings (ELSEVIER)" 2214-7853/2020, 472–477.
6. Design and Fabrication of Agri-Cutter, Mothukuri Shiva Chander, Pulluru Satish Kumar, "Materials Today: Proceedings (ELSEVIER)", 2214-7853/2020, 211–215.
7. "Interventions in location specific technologies and material utilization through Women Technology Park in India" "V Mahesh, P V Ramana Rao, I Rajasri Reddy, K Kiran, R Gobinath and P Murthy." IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020), 1-15.
8. "Strength and Settlement studies on basalt fiber reinforced marginal soil", Gobinath R , MaheshV, G.Shyamala and Adla Rajesh, IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020), 1-10.
9. "Thermal behavior of Concrete subjected to elevated temperature: Case Studies", G.Shyamala, V.Mahesh, K.Rajesh Kumar and I Rajasri Reddy, IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020).
10. "Effect Of The Support Structure On Flexural Properties Of Fabricated Part At Different Parameters In The Fdm Process", "Pulla Sammaiah, D. Chaitanya Krishna1, S. Sai Mounika, I Rajasri Reddy and T. Karthik",Materials Science and Engineering (ICRAEM 2020).
11. Experimental Study Of The Nano Based Paper Battery, Pulla Sammaiah, Md. Yakub Baba and N. Praveena devi and I Rajasri Reddy, Materials Science and Engineering (ICRAEM 2020).
12. "The Influence Of Process Parameters On The Surface Roughness Of The 3d Printed Part In FDM Process", Pulla Sammaiah, K.Rushmamanish, N. Praveenadevi and I. Rajasri Reddy, Materials Science and Engineering (ICRAEM 2020).

13. "Analysis of New Methodologies applied in Teaching Engineering Graphics to have a Moderate Explanation", "Adla Rajesh, P.Sammaiah, Pankaj Kumar, T S Ramesh Babu and Sunil Kumar Jakkula.", Materials Science and Engineering (ICRAEM 2020), 04 December 2020.
14. Thermal performance of nanofluids in heat transfer loops, N Praveena Devi, Ch Srinivasa Rao and K Kiran Kumar, Materials Science and Engineering (ICRAEM 2020)
15. Modeling And Simulation Of Applied Load On Lenin Fiber Composite Materials Using COMSOL, Pankaj Kumar, C Sairam, V Dender, A Rajesh, IOP Conference Series: Materials Science and Engineering 981 (4)
16. "Consequences on Manual Drawing Ability from Computer Aided Design and Computer Aided Manufacturing", Adla Rajesh, V.Mahesh, Jay Prakash Srivastava, P Abhilash and Suni Kunar Jakkula", IOP Conference Series: Materials Science and Engineering.
17. Performance Optimization Of Hydraulic Brakes In Go-Kart, "Jay Prakash Srivastava, Mohammed Moizuddin, Gankidi Gangadhar Reddy, Kavvempally Suryateja, N Sambasiva rao", IOP Conference Series: Materials Science and Engineering.
18. Agriculture Pump based on Smart Energy Harvesting on Solar System, "Anna Srinivas, V.Radhika , P Sammaiah, Jay Prakash Srivastava, P Venkata Ramana Rao and Sangaraboina Shailaja" IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020).
19. Case Study on Different Go Kart Engine Transmission Systems, "Jay Prakash Srivastava, Gankidi Gangadhar Reddy, Mohammed Moizuddin, Kavvampelly Surya Theja and N Sambasiva Rao" IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020).
20. A Redesigning Software Procedure in Improved Software Management using Machine Learning. R. Nethravathi, S.Naresh Kumar, S.Shwetha, M Shyamsunder, Ch Vinay Kumar Reddy, Materials Science and Engineering (ICRAEM 2020).
21. A review of methods on Condition Monitoring and Fault Diagnosis using IR Thermography – An Expert System approach, Ch. Vinay Kumar Reddy, K. V. Ramana, Materials Science and Engineering (ICRAEM 2020).
22. An IOT Based Environmental Monitoring System, "G Jhansi Rani, G Shanmukhi Rama, Ranjith Kumar Marrikukkala, Y Srikanth, Ch Vinay Kumar Reddy.", Materials Science and Engineering (ICRAEM 2020).
23. "Comparison Of Tests for Isomorphism in Planetary Gear Trains", I Rajasri Reddy, Ch Vinay Kumar Reddy, YVD Rao, A Chandra Shekar, Materials Science and Engineering (ICRAEM 2020).
24. Design of PV Array Using Boost Converter by Incremental Conductance Mppt Power Technique, S Anitha, Ch. Vinay Kumar Reddy, G Balaram, G.Ranadheer Reddy, Materials Science and Engineering (ICRAEM 2020).

25. Face detection authentication analysis on smartphones, "G Jhansi Rani,G Shanmukhi Rama,K Ranganath, Tarun Kumar Juluri, Ch Vinay Kumar Reddy." Materials Science and Engineering (ICRAEM 2020).
26. Fiscal Scam Illuminating Through Analyzing Human Behaviour, "T.Sravanthi, M.Sruthi, S Tharun Reddy, T Chandra Prakash, Ch Vinay Kumar Reddy." Materials Science and Engineering (ICRAEM 2020).
27. "Secure Deployment of Decentralized Cloud in Blockchain Environment using Inter-Planetary File System"  
"Mruthyunjaya Mendu, Dr.B Krishna, Sallauddin Mohmmad, Y Sharvani, Ch Vinay Kumar Reddy."  
Materials Science and Engineering (ICRAEM 2020).
28. Sensor based controlling system for monitoring Home automation using IOT, "D Raghava kumari, K Pravallika, A Mahesh, Ch Sridevi, Ch Vinay Kumar Reddy.", Materials Science and Engineering (ICRAEM 2020).
29. "A Review on Impact of Tool pin Geometry on Friction Stir Welding of Aluminum alloys", M.Shiva Chander, M.Ramakrishna, B.Durga prasad and Adla Rajesh, Materials Science and Engineering (ICRAEM 2020).
30. "Impact of Process Parameters on Peak Temperature Inside the Workpiece During Friction Stir Welding of AA5083 Aluminum Alloys" M. Shiva Chander, M. Ramakrishna, and B. Durgaprasad, Lecture Notes in Mechanical Engineering (Springer), ISSN 2195-4356, ISSN 2195-4364 (electronic), ISBN 978-981-15-7557-0 (eBook).
31. "Deformation of an elastic membrane interacting electrostatically with a rigid curved domain: implications to biosystems" Paritosh Mahata, Laxminarsimharao Vennamneni, Arch Appl Mech (Springer).
32. Characterization of used and virgin pearlitic rail steel, Gandham Bhavani, Jay Prakash Srivastava, V. Mahesh, Materials today Proceedings-Elsevier, 2214-7853/2020.
33. Design and fabrication of smart seed sowing robot, Pankaj Kumar, G. Ashok, Materials today Proceedings-Elsevier.
34. Investigation on effects of vegetable based cutting fluids in turning operation of "EN 24 STEEL", Pankaj Kumar, S. Ravi, Materials today Proceedings-Elsevier.
35. Emerging trend in manufacturing of 3D biomedical components using selective laser sintering: A review, Pankaj Kumar, Gazanfar Mustafa Ali syed, E3S Web of Conferences.
36. Investigation on effects of graphite particle on the mechanical properties of stir cast AA6061-Gr MMCs, Pankaj Kumar,Jay Prakash Srivastava, Md. Kaleem, Materials today Proceedings-Elsevier.
37. Optimization of micro-electrical discharge drilling parameters of Ti6Al4V using Response Surface Methodology and Genetic Algorithm, Pankaj Kumar, Manowar Hussain, Advances in Intelligent Systems and Computing, 449-456.

38. Enhancement of heat transfer in radiator using copper oxide nano fluids, Nallala Rajashekar Reddy, Pavushetti Abhilash, Munigala Rahul, Materials today Proceedings-Elsevier, 2214-7853/ 2020.
39. "Numerical study on strength optimization of Go-Kart roll-cage using different materials and pipe thickness", "Jay Prakash Srivastava, B. Krishna Chaithanya, K. Sai Teja, B. Venugopal, S. Vineeth, M. Rajkumar, Habeeb Khan" Materials today Proceedings-Elsevier, 188-492.
40. Significant Changes in India During Lock Down period with an Impact of COVID-19, Adla Rajesh, R. Shashi Kumar Reddy, M. Shiva Chander, Journal of Mechanics of Continua and Mathematical Sciences, ISSN (Online) : 2454 -7190, ISSN (Print) 0973-8975.
41. Flatten The Curve And Raise The Line To Reduce The Risk Of Covid-19, Ch. Vinay Kumar Reddy, I. Rajasri, P.Sammaiah, Journal of mechanics of continua and Mathematical sciences, ISSN (Online) : 2454 - 7190, ISSN (Print) 0973-8975.
42. "Numerical investigation on vibration characteristics and structural behavior of different go-kart chassis configuration", Jay Prakash Srivastava, Gankidi Gangadhar Reddy, Kavvampelly Surya Teja, Materials today Proceedings-Elsevier, 2214-7853/2020.
43. Characterization of Friction Stir Welded Aluminium Alloy (5083) Joints, K. Naveen Kumar, P. Satish Kumar, M. Shiva Chander, International Research Journal of Engineering and Technology (IRJET), e-ISSN: 2395-0056, p-ISSN: 2395-0072.
44. Influence of micro and nano carbon fillers on impact behavior of GFRP composite materials, K Sravanthi, V Mahesh, B.Nageswara Rao, Materials today Proceedings-Elsevier.
45. Material performance of agro based hybrid natural fibre reinforced high strength concrete, K Poongodi, V Mahesh, P Murthi and M Sivaraja, IOP Conf. Series: Materials Science and Engineering (ICRAEM 2020).
46. "Comparison between hamming method and modified path matrix approach to identify isomorphism in PGTs", Ch. Vinay Kumar Reddy, I. Rajasri, V. Mahesh, Materials today Proceedings-Elsevier

## **INTERNATIONAL CONFERENCE:**

1. "Influence of Track Width, Wheel Base on Turning Radius and Static Behavior of Stub Axle, C-Clamp in Go- Karts Steering System", Jay Prakash Srivastava, 1st International Conference on Technology Innovation in Mechanical Engineering-2021 (TIME-2021),

## ***Five Day ATAL-AICTE Faculty Development Program on " 3D Printing and Design for Academician & Entrepreneurs"***

A 5-Days AICTE sponsored workshop on “3D Printing and Design for Academicians & Entrepreneur” was conducted from 21st to 25th June 2021 in which around 198 participants from different parts of the country participated.

The inauguration was held on 21st June online at 10:00 am. Chief Guest of the program was Mr. Ankit Sahu (Co-Founder & Director of Objectify Technologies Pvt. Ltd), Guest of Honor of the function was Prof. V. Mahesh (Principal S R Engineering College). Prof. P. Sammaiah head of Mechanical Engineering Department was also present with co-coordinator and the participants. Coordinator Dr. Pankaj Kumar addressed the participants about online FDP. Prof. V. Mahesh talked various initiatives taken by the institute along with benefits of attending FDP granted by ATAL Academy. Prof. P. Sammaiah various initiatives taken by the Mechanical Engineering Department in the pandemic time.

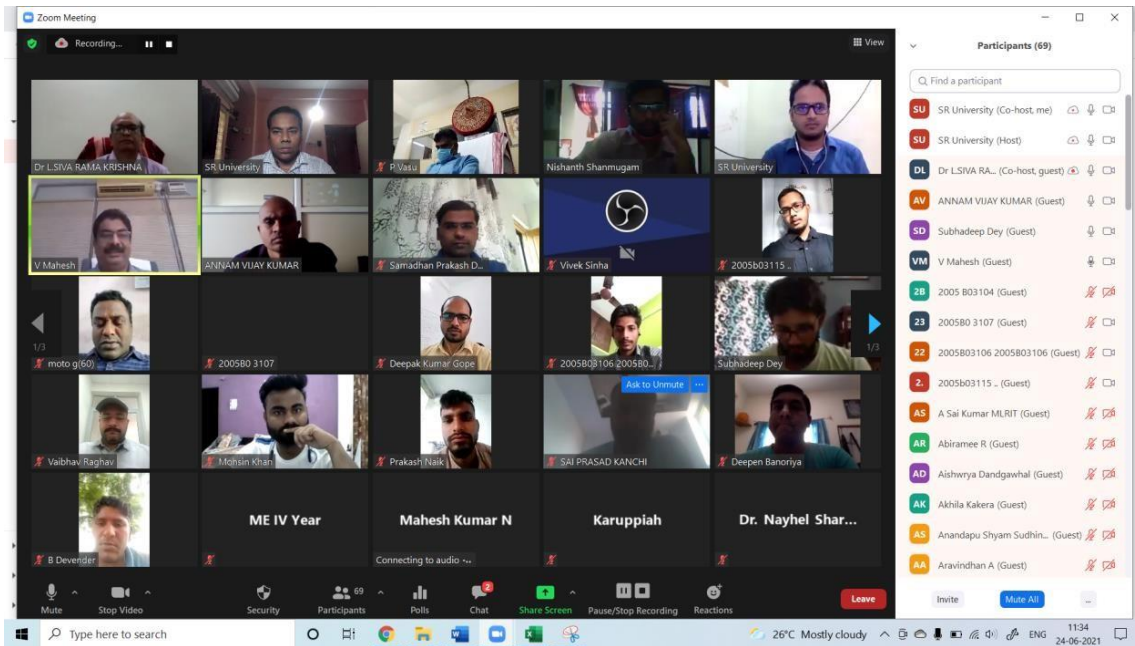
Day wise schedule of FDP on “3D Printing and Design for Academicians & Entrepreneur”

Dates	10:00 AM to 11:30 AM	11:30 AM to 12.00 PM	12.00 Noon to 1.30 PM	1.30 PM to 2:30 PM	2:30 PM to 4.00 PM	4:15 PM to 4:45 PM
Day – I 21.06.21	Online Verification and Inauguration Chief Guest “Mr. Ankit Sahu” Co-Founder & Director Objectify Technologies Pvt. Ltd.	Tea Break	<b>Session 1</b> Emerging Trends in 3D Printing Technologies – A global Perspective Dr. Amit Rai Dixit IIT(ISM) Dhanbad	Lunch Break	<b>Session 2</b> Introduction to CAD and 3D Printing File Formats Prof. L. Krishnanand, NITW	Tea Break
Day – II 22.06.21	<b>Session 3</b> Overview of Metal 3D Printing using DMLS Dr. A. K. Das, IIT (ISM) Dhanbad	Tea Break	<b>Session 4</b> Powder Preparation and Characterization Methods in 3D Printing Dr P M Pandey IIT Delhi	Lunch Break	<b>Session 5</b> How to Build DIY Printers? Mr. Rakesh Hyderabad	Tea Break
Day – III 23.06.21	<b>Session 6</b> Entrepreneurship opportunity and challenges in 3D printing Ms Sreedevi Reddy, CEO SIRX & Colonel B. S. Rao	Tea Break	<b>Session 7</b> “3D Images to Model: 3D Image Data Visualization, Analysis, Model Generation Biomechanics & 3D Printing: Simple ware software” Mr. Jigyasu - Application Engineer, Integrated Microsystem, Gurgaon, India	Lunch Break	<b>Session 8</b> 3D Printer Prognostics: Challenges and Opportunities Dr Amit Kumar SR University.	Tea Break
Day – IV 24.06.21	<b>Session 9</b> Biomedical Applications of 3D Printing Dr. L. Siva Rama Krishna UCE, Osmania Univ., Hyd.	Tea Break	<b>Session 10</b> Applications of 3D Printing in Dental and Maxillofacial Surgeries Dr. Y. Ravi Kumar, NITW	Lunch Break	<b>Session 11</b> 3D Bio Printing Dr. Falguni Pati IIT Hyd.	Tea Break
Day – V 25.06.21	<b>Session 12</b> Defence application of additive manufacturing Dr. A. Kumar NITW	Tea Break	<b>Session 13</b> Prospects of nickel Aluminum bronze for additive manufacturing Dr. G.D Jankiram, IIT Hyd.	Lunch Break	<b>Session 14</b> Demo on SLM, SLS, SLA, & FDM Prof. Sriram Venkatesh UCE, Osmania Univ., Hyd.	Valediction and Online Test





Industrial Person delivering the Metal Additive Manufacturing: The Indian Scenario.



Screenshot of the attendees to the program



Resource Person

**Dr. K Srinivas Reddy** FNAE

Professor, Department of Mechanical Engineering  
Indian Institute of Technology Madras

Honorary Professor, Clean Technologies  
University of Exeter, Penryn Campus

Faculty Coordinators

**Prof. P Sammaiah**

**Dr. Bohra Nitin Kumar**

Department of Mechanical Engineering  
School of Engineering



**SR University**

Virtual Guest Lecture on  
**Renewable Energy Technologies  
for Sustainable Development**

Organized by  
Department of Mechanical Engineering, School of Engineering,  
SR University



**29<sup>th</sup> September 2021  
(Wednesday)**



**1:30 – 2:30 PM (IST)**



Join Zoom Meeting

<https://sru-edu.zoom.us/j/92459816198>

Meeting ID: **924 5981 6198** Passcode: **987801**



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Professional Activities - Experts Invited for Professional Programs in the department

S. No	Faculty Name	Expert Talk/Session Chair/Guest Speaker	Title & Event	Venue	Date
1	<b>Dr. P.Sammaiah,</b> Professor, SR University, Warangal. <b>Dr. Pankaj Kumar</b> Asst. Professor, SR University, Warangal. <b>Mr. B.Rajesh.</b> Asst. Professor, SR University, Warangal.	Expert Talk	Two Weeks Program on “3D Printing and Design”	Centre for Materials and Manufacturing, Department of Mechanical Engineering, S R University, Warangal.	14-12-2020 to 24-12-2020

Faculty Exposure to other Institutions and Industry

S. No	Faculty Name	Expert Talk/Session Chair/Guest Speaker	Title & Event	Venue	Date
1	Dr. Jay Prakash Srivastava	Expert Talk	A hands on introduction to engineering simulation using finite element analysis	Vidya Vihar Institute of Technology, Bihar.	19-07-2020 to 23-07-2020
2	Dr. Jay Prakash Srivastava	Expert Talk	Ethics and responsibilities of a successful engineer.	IEEE Computer Society (Online mode)	15-09-2020
3	Dr. Pankaj Kumar	Expert Talk	Engineering Computation using MAT Lab	Bundelkhand Insitute of Engineerng and Technology, Jhansi.	29-10-2020 to 30-10-2020
4	Dr. P. Sammaiah	Expert Talk	Advanced concepts of nanotechnology	Balaji Institute of Technology and Science, Warangal	30.06.2020
5	Dr. P. Sammaiah	Expert Talk	Nanotechnology	SVCET, Srikakulam District AP	10.07.2020
6	Dr. P. Sammaiah	Expert Talk	Engineering Smart Materials	SVCET, Srikakulam District AP	11.07.2020