



MECH-TIMES

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July – Dec. 2023



**Department Of Mechanical Engineering
Sant Longowal Institute of Engineering and
Technology, Longowal, Punjab**

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Faculty Development Program/Seminar/Workshop organized by the Department



1. Department of Mechanical Engineering, SLIET Longowal, Sangrur, Punjab has successfully conducted a one-week online Faculty Development Program (FDP) on “Recent Trends in Additive Manufacturing (RTAM-2023)” from 18th to 22nd December 2023. The course was co-ordinated by Dr. Anuj Bansal and Dr. Anil Kumar Singla and Co-coordinated by Mr. Jonny Singla and Mr. Divesh Bharti. Course was inaugurated on 18th December 2023 by Chief Guest Prof. Alakesh Manna (Department of Mechanical Engineering, Punjab Engineering College, Chandigarh). The Inauguration was graced by Prof. Mani Kant Paswan, Director SLIET Longowal (Chief Patron), Prof. JS Dhillon (Patron) and AS Shahi (Chairman).

The course consisted of 14 technical sessions that includes expert talk along with practical demonstrations, which were successfully conducted during 5 days of the course. All technical sessions were conducted by eminent speakers from IIT's, NIT's, NITTR and CFTI's. The process of manufacturing a component using 3D printing, its characterization and recent trends in additive manufacturing was discussed in these technical sessions and topics like history and importance of 3D printing technology in industrial sector along with some case studies, types of 3D printing and their properties, post processing of 3D printed component have been covered in detail. Through various practical sessions, demonstration of manufacturing a component using 3D printers for metal and polymer were also covered during the course. The experts also interacted with the participants through hybrid mode of communication.

91 participant including faculty and research scholars from various institutes and industries have registered for RTAM-2023 Out of them, 39 participants are from outside the institute. Regionally, the participants from all over India have registered for the course.




2. A One-Day Seminar was organized on the 5th of September 2023 to commemorate the birth anniversary of the esteemed Dr. Sarvepalli Radhakrishnan, as a tribute to the revered occasion of Teachers' Day. This event was spearheaded by the IEI-SLIET Student Chapter in collaboration with the Department of Mechanical Engineering.




Sant Longowal Institute of Engineering & Technology

(Deemed-to-be University, under MoE, Govt. of India)
Longowal-148106, Sangrur (Pb.) INDIA


One day seminar (05 September 2023)
On
Dr. Sarvepalli Radhakrishnan




Prof. Mani Kant Paswan
Director, SLIET




Prof. Rajesh Kumar
Dean (SW), SLIET



Dr. A.S. Shahi
HoD, ME Department



Dr. Rakesh Kumar
Faculty Advisor IEI



ALL STUDENTS, STAFF & FACULTY MEMBERS ARE WELCOME!

Organised under IEI SLIET Student chapter
and
Department of Mechanical Engineering
Prize sponsored by Central Bank of India, SLIET Longowal

Venue:- M 102, Mechanical Block

Time:- 15:00 IST



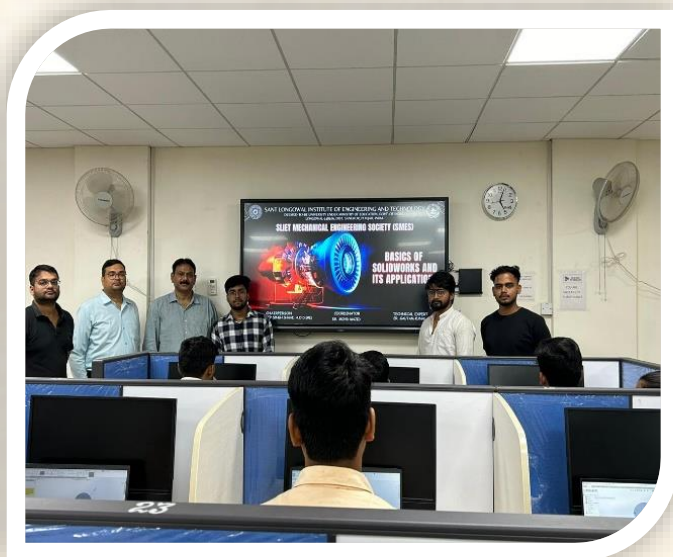
3. A one-week training workshop on the Basics of SolidWorks and its applications was organized by the SLIET Mechanical Engineering Society and coordinated by Dr. Mohd Majid AP, ME, and Er. Gautam Kunal, ME. The workshop aimed to equip participants with essential skills and knowledge in using SolidWorks software.

SolidWorks is a widely-used computer-aided design (CAD) software application utilized by engineers and designers for creating 2D and 3D models of mechanical and electronic components. It offers a suite of tools for modeling, simulation, rendering, and documentation, making it invaluable across industries such as manufacturing, automotive, and aerospace.

Throughout the workshop, participants were introduced to various aspects of SolidWorks, including part modeling, assembly, drafting, and an overview of ANSYS for engineering simulation and analysis. Each day focused on specific topics, such as part modeling sessions and assembly and drafting techniques.

Additionally, the workshop provided hands-on training and practical demonstrations to enhance participants' understanding and proficiency in using SolidWorks and ANSYS software. Through daily reports and interactive sessions, attendees gained practical skills applicable to academic and professional endeavors.

Overall, the workshop served as a comprehensive platform for participants to learn, practice, and master SolidWorks, enabling them to contribute effectively to product design and engineering tasks in their respective fields.



Faculty Achievements

1. **Dr. Rajesh Kumar (Professor, Department of Mechanical Engineering)** was listed in the top 2% of the scientist list issued by Stanford University, California in 2023.

196320	Gupta, Girish K.	Sri Sai College of Pharmacy	ind	73	2011	2023	3,34,874
196321	Xu, Hanmei	China Pharmaceutical Univ	chn	146	2005	2023	3,34,878
196322	Kumar, Rajesh	Sant Longowal Institute of Engineering and Technology	ind	81	2001	2023	3,34,882
196323	Ahmed, Hafiz	Bangor University	gbr	92	2012	2024	3,34,888
196324	Bowen, Raffick A.R.	Stanford Healthcare	usa	42	2004	2023	3,34,896

2. **Prof. Dheeraj Sud, Dr. Payal Malik and Dr. Anil Kumar Singla** provided consultancy services for chemical and performance analysis of industrial samples to Amber Paints, Ludhiana, Punjab worth Rs 59,000/-.

Research Scholars Achievements

1. **Mr. Govind Vashishtha**, Ph.D. Research Scholar (Regd. No. PME/1804/NDF), working under the supervision of Dr. Rajesh Kumar (Professor, Department of Mechanical Engineering) was listed in the top 2% of the scientist list issued by Stanford University, California in 2023

197618	ADAMS, DOUGLAS O.	University of California, Davis		32	1979	2022	3,47,436
197619	Redmond, Robert W.	Harvard Medical School	usa	137	1984	2023	3,47,461
197620	Howitz, Konrad T.	Reaction Biology Corp.	usa	15	2000	2016	3,47,463
197621	Saarikko, Anne	Helsingin Yliopisto	fin	57	2000	2023	3,47,467
197622	Vashishtha, Govind	Sant Longowal Institute of Engineering and Technology	ind	23	2020	2023	3,47,471
197623	Xia, Lixue	Alibaba Group Holding Limited	chn	39	2015	2023	3,47,488
197624	Collins, G. W.	University of Rochester	usa	286	1990	2023	3,47,491
197625	Kuehn, David P.	University of Illinois Urbana-Champaign	usa	95	1972	2023	3,47,498

2. **Mr. Vikrant Guleria**, Ph.D. Research Scholar (Regd. No. PME/1801), working under the supervision of Late Dr. P. K. Singh (Professor, Department of Mechanical Engineering) and Dr. Vivek Kumar (Associate Professor, Department of Mechanical Engineering) was conferred with the “SLIET Quality Publication Award (SQPA)” for the extra ordinary research publications in the SCI journal “Measurement” on 15 th August 2023 at Sant Longowal Institute of Engineering and Technology (SLIET), Longowal Punjab. The award carries a Certificate of appreciation along with cash prize of Rs. 5000/-.



3. **Mr. Sumit Kumar, Ph.D. Research Scholar** (Regd. No. PME/1605), working under the supervision of Dr. Pardeep Gupta (Professor) Department of Mechanical Engineering was conferred with the “**SLIET Quality Publication Award (SQPA)**” for the extra ordinary research publications in the SCI journals “Journal of Mechanical Engineering” on 15th August 2023 at Sant Longowal Institute of Engineering and Technology (SLIET), Longowal Punjab. The award carries a Certificate of appreciation along with Cash prize of ₹5000/-.
4. **Mr. Vikrant Singh, Ph.D. Research Scholar** (Regd. No. PME/2123), working under supervision of Dr. Anuj Bansal (Assistant Professor) and Dr. Anil Kumar Singla (Associate Professor), Department of Mechanical Engineering was conferred with the “**SLIET Quality Publication Award (SQPA)**” for the extra ordinary research publications in the SCI journals “Journal of Thermal Spray Technology” and “Engineering Failure Analysis” on 15th August 2023 at Sant Longowal Institute of Engineering and Technology (SLIET), Longowal Punjab. The award carries a Certificate of appreciation along with Cash prize of ₹10000/-.



Publications:

1. **Tripathi, Prashant, and Shankar Singh.** "Optimizing Machining Parameters for Electric Discharge Machining of Inconel 800 Using the Grey Relational Analysis Method." *Rare Metal Materials and Engineering*, 52.10 (2023): 13-21.
2. **Tripathi, Prashant, and Shankar Singh.** "Experimental Investigation of Dry-EDM of Inconel 800 using tool rotation." *SJIS-P 35.1* (2023): 667-672.
3. **Vashishtha, Govind, et al.** "Intelligent fault diagnosis of worm gearbox based on adaptive CNN using amended gorilla troop optimization with quantum gate mutation strategy." *Knowledge-Based Systems*, 280 (2023): 110984.
4. **Kumar, Surinder, and Rajesh Kumar.** "Tribological characteristics of synthesized hybrid nanofluid composed of CuO and TiO₂ nanoparticle additives." *Wear*, 518 (2023): 204623.
5. **Raj, Prem, and Jaspal Singh Gill.** "Characterisation of weld bead and microhardness of SS316L weld overlays on S355J2+ N steel using GTAW under E-type magnet." *Engineering Research Express*, 5.4 (2023): 045039.
6. **Raj, P., and J. S. Gill.** "Effect of Three Poles Magnet on Weld Bead Characteristics in Autogenous GTA Welding Process on S355J2+ N Steel." *NanoWorld, J 9.S1* (2023): S139-S143.
7. **Majid, Mohd, et al.** "Firefly Algorithm and Neural Network Employment for Dilution Analysis of Super Duplex Stainless Steel Clads over AISI 1020 Steel Using Gas Tungsten Arc Process." *Coatings*, 13.5 (2023): 841.
8. **Saxena, Abhinav, et al.** "Abnormal Health Monitoring and Assessment of a Three-Phase Induction Motor Using a Supervised CNN-RNN-Based Machine Learning Algorithm." *Mathematical Problems in Engineering*, 2023.1 (2023): 1264345.
9. **Singh, Vikrant, Anil Kumar Singla, and Anuj Bansal.** "Enhanced erosion resistance of HVOF-deposited laser-textured TiC coating with PTFE." *Surface Engineering* 39.7-12 (2023): 816-822.
10. **Singh, Vikrant, Anuj Bansal, and Anil Kumar Singla.** "Optimization of High-Velocity Oxygen Fuel Spray Process Parameters to Achieve Maximum Thickness and Minimum Porosity in Vanadium Carbide Coating." *Journal of Materials Engineering and Performance* (2023): 1-10.



11. **Sharma, Himanshu**, et al. "Influence of post heat treatment on metallurgical, mechanical, and corrosion analysis of wire arc additive manufactured inconel 625." *Journal of Materials Research and Technology* 27 (2023): 5910-5923.
12. **Rooprai, Ranbir Singh, Anuj Bansal, and Jagtar Singh**. "Influence of TiC powder content on wear behaviour of Inconel 625 clads developed by hybrid-mode wire arc additive manufacturing (WAAM) on EN-8 steel." *Tribology International* 189 (2023): 108937.
13. **Vipra, Rajat**, et al. "Slurry Erosion Behavior of Ni-Al and Fe-Cr Coatings Deposited by Arc Wire Spray on Hydro Machinery SS316 Steel." *Journal of Materials Engineering and Performance* (2023): 1-12.
14. **Singh, Vikrant, Anil Kumar Singla, and Anuj Bansal**. "Influence of laser texturing along with PTFE topcoat on slurry and cavitation erosion resistance of HVOF sprayed VC coating." *Surface and Coatings Technology* 470 (2023): 129858.
15. **Singh, Vikrant, Anil Kumar Singla, and Anuj Bansal**. "Wetting and erosive behavior of VC-TiC+ CuNi-Cr based coatings developed by HVOF: Role of laser texturing." *Engineering Failure Analysis* 152 (2023): 107479.
16. **Singh, Sarpreet**, et al. "Slurry erosion behavior of Hogonas+ 50% WC clad SS304 steel prepared using variable laser cladding parameters." *International Journal of Refractory Metals and Hard Materials* 115 (2023): 106326.
17. **Singh, Vikrant, Anuj Bansal, and Anil Kumar Singla**. "Response surface methodology (RSM) based analysis on slurry erosion behavior of laser textured and PTFE sprayed VC+ TiC coating deposited via HVOF." *Materials Today Communications* 36 (2023): 106843.
18. **Singh, Vikrant, Anil Kumar Singla, and Anuj Bansal**. "Influence of TiC content on slurry erosion behaviour of HVOF sprayed titanium carbide and cupronickel-chromium based coatings." *Journal of Thermal Spray Technology* 32.6 (2023): 1739-1757.
19. **Singla, Anil Kumar**, et al. "Development, characterization, and cavitation erosion analysis of high velocity oxy-fuel (HVOF) sprayed TiC and (70Cu-30Ni)-Cr based composite coatings on SS316 steel." *Tribology International* 186 (2023): 108621.
20. **Singh, Vikrant, Anil Kumar Singla, and Anuj Bansal**. "Influence of laser texturing on hydrophobicity and slurry erosion behaviour of VC-CuNiCr based HVOF coatings." *Surface Topography: Metrology and Properties* 11.3 (2023): 035005.



21. Kumar, Vivek, Vikas Rastogi, and Pushparaj Mani Pathak. "Ride comfort assessment and improvement in high-speed railway vehicle." International Journal of Heavy Vehicle Systems 30.4 (2023): 454-475.





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