VOLUME V

ISSUE I

DEPARTMENT OF MECHANICAL ENGINEERING

MECH-TIMES

Transforming Ideas into Machines, and Machines into Marvels of Engineering Excellence"

Contents

Message from the Director

As we celebrate the success and progress of the Mechanical Engineering Department at SLIET Longowal, I extend my heartfelt congratulations to the entire Department for its dedication to excellence in **Teaching, Research, and Innovation**.

The Department of Mechanical Engineering has consistently been at the forefront of **academic and research endeavours**, and its exceptional placement record of **92.56% in the academic session 2024–25** stands as a proud testament to the hard work of our students, faculty, and staff.

I am also delighted to highlight SLIET's remarkable performance in the **NIRF 2024 Rankings**: **76th in the Engineering Category** and **85th in the University Category**. These milestones reflect our relentless pursuit of excellence and our commitment to fostering a culture of **innovation, skill development, and academic rigor**.

What we value the most at SLIET is our **people**—the vibrant community of **students, faculty, and staff**, whose hunger for knowledge, creativity, and commitment to work make every day an inspiring and enriching experience for all of us.

As we step into this new academic session, let us continue to **strive together for academic and research excellence**, set new benchmarks for **innovation**, and contribute meaningfully to society.

Together, we will ensure that SLIET continues to grow as a **centre of excellence**, shaping bright futures and building a better tomorrow.

Best wishes,

Prof. Mani Kant Paswan

निदेशक का संदेश

स्लाईट लौंगोवाल के यांत्रिक अभियान्त्रिकी विभाग की उपलब्धियों और प्रगति का उत्सव मनाते हुए, मैं पूरे विभाग को शिक्षण, शोध एवं नवाचार में उत्कृष्टता के प्रति उनकी निष्ठा के लिए हार्दिक बधाई देता हूँ।

यांत्रिक अभियान्त्रिकी विभाग सदैव से ही शैक्षणिक एवं अनुसंधान गतिविधियों में अग्रणी रहा है और सत्र 2024-25 में 92.56 प्रतिशत का उत्कृष्ट नियोजन (प्लेसमेंट) अभिलेख हमारे विद्यार्थियों, शिक्षकों एवं कर्मचारियों की मेहनत और समर्पण का गौरवपूर्ण प्रमाण है।

मुझे यह बताते हुए भी अत्यंत हर्ष हो रहा है कि एन. आई.आर.एफ. 2024 रैंकिंग में स्लाईट ने शानदार प्रदर्शन किया है- अभियान्त्रिकी श्रेणी में 76वाँ स्थान तथा विश्वविद्यालय श्रेणी में 85 वाँ स्थान। ये उपलब्धियाँ हमारी उत्कृष्टता की निरंतर खोज तथा नवाचार, कौशल विकास एवं शैक्षणिक दृढ़ता की संस्कृति को प्रोत्साहित करने की हमारी प्रतिबद्धता को दर्शाती हैं। स्लाईट में हम सबसे अधिक महत्व अपने लोगों को देते हैं हमारे विद्यार्थी, संकाय सदस्य एवं कर्मचारी, जिनका ज्ञान-पिपासु स्वभाव, रचनात्मकता और कार्य के प्रति समर्पण प्रत्येक दिन को प्रेरणादायी और समृद्ध अनुभव बनाता है।

जैसे ही हम इस नए शैक्षणिक सत्र में प्रवेश कर रहे हैं, आइए हम मिलकर शैक्षणिक एवं अनुसंधान उत्कृष्टता के लिए प्रयास जारी रखें, नवाचार के नए मानक स्थापित करें और समाज एवं राष्ट्र-निर्माण में सार्थक योगदान दें। हम सब मिलकर यह सुनिश्चित करेंगे कि स्लाईट उत्कृष्टता का केन्द्र बना रहे, उज्ज्वल भविष्य गढ़े और एक बेहतर कल का निर्माण करे।

शुभकामनाएँ

प्रो. मणि कांत पसवान
निदेशक, स्लाईट लोंगोवाल

Message from the Head of the Department

Message of Head of the Department

Greetings from the Department of Mechanical and Civil Engineering!

As we step into this new academic semester, filled with hope and dreams of scaling new heights, I wish to reiterate the importance of few things that we have to keep in mind. The purpose of education is to teach budding engineers to think and develop a capacity to reason out facts. Learners should keep in mind the importance of planning and prioritizing their time and the effective use of it which are essential to achieve success.

It gives me immense pleasure to share that the Department of Mechanical Engineering at SLIET Longowal continues to achieve remarkable milestones in its pursuit of academic excellence, research, and innovation. The department is working in the direction of shaping up the students to make them globally competent technocrats and responsible civilians of our country.

The Department regularly preserves its achievements and publishes all its activities through its Bi-annual newsletter ***'MECH-TIMES'****, which reflects the collective efforts and accomplishments of our faculty, staff, and students. Our goal has always been not only to impart sound technical knowledge and skills to our students but also to nurture their wisdom, character, and sense of responsibility towards society.*

The dynamic leadership of Hon'ble Director, SLIET Prof Mani Kant Paswan has played a pivotal role in streamlining the job prospects for the students of the SLIET.

It gives a feeling of pleasure to put on record that out of 121 eligible students of Mechanical Department, the number of placed students is 112 (92.56%). Heartiest Congratulations to all the Faculty & Staff of Mechanical Department on the successful placement of their students! This achievement reflects the hard work and dedication of our students, faculty & staff. It's a significant milestone and a testament to the quality of the department's program.

We firmly believe that the true success of our department lies in shaping students who will carry forward the knowledge and values acquired here, contributing meaningfully to the progress of society and mankind. With the continuous efforts of our accomplished faculty, committed staff, and talented students, I am confident that together, as a vibrant academic community, we will continue to achieve excellence and contribute significantly to the growth of technology and society.

Dr Shankar Singh
Professor and Head
Department of Mechanical & Civil Engineering

विभागाध्यक्ष का संदेश

यांत्रिक एवं सिविल अभियांत्रिकी विभाग की ओर से हार्दिक शुभकामनाएँ!

नए शैक्षणिक सत्र में प्रवेश करते हुए, जो आशा और नई ऊँचाइयों को छूने के सपनों से परिपूर्ण है, मैं कुछ महत्वपूर्ण बातों की पुनः स्मृति कराना चाहता हूँ। शिक्षा का उद्देश्य भावी अभियंताओं को सोचने की क्षमता प्रदान करना तथा तथ्यों का विवेचन करने की शक्ति

विकसित करना है। विद्यार्थियों को सदैव अपने समय की योजना बनाने, प्राथमिकताएँ निर्धारित करने तथा समय का प्रभावी उपयोग करने के महत्व को ध्यान में रखना चाहिए, जो सफलता प्राप्ति के लिए अनिवार्य है।

मुझे यह बताते हुए अत्यंत प्रसन्नता हो रही है कि स्लाईट लोंगोवाल का यांत्रिक अभियांत्रिकी विभाग शैक्षणिक उत्कृष्टता, अनुसंधान तथा नवाचार की दिशा में निरंतर उल्लेखनीय उपलब्धियाँ अर्जित कर रहा है। विभाग का उद्देश्य विद्यार्थियों को इस प्रकार तैयार करना है कि वे न केवल वैश्विक स्तर पर सक्षम प्रौद्योगिकविद् बनें, अपितु हमारे देश के उत्तरदायी नागरिक भी सिद्ध हों।

*विभाग अपनी उपलब्धियों को नियमित रूप से संजोता है और अपनी सभी गतिविधियों का प्रकाशन अर्धवार्षिक समाचार-पत्रिका '**"मेक-टाइम्स"** के माध्यम से करता है, जो हमारे संकाय सदस्यों, कर्मचारियों तथा विद्यार्थियों के सामूहिक प्रयासों एवं उपलब्धियों का प्रतिबिंब है। हमारा लक्ष्य सदैव यही रहा है कि हम विद्यार्थियों को ठोस तकनीकी ज्ञान और कौशल के साथ-साथ विवेक, चरित्र तथा समाज के प्रति उत्तरदायित्व की भावना का भी संवर्धन करें।*

माननीय निदेशक, स्लाईट प्रो. मणि कांत पासवान के गतिशील नेतृत्व ने विद्यार्थियों के लिए रोजगार के अवसरों को सुव्यवस्थित करने में महत्वपूर्ण भूमिका निभाई है।

यह बताते हुए अत्यधिक संतोष होता है कि यांत्रिक अभियांत्रिकी विभाग के 121 पात्र विद्यार्थियों में से 112 विद्यार्थियों का चयन हुआ है (92.56%)। यांत्रिक विभाग के सभी संकाय सदस्यों एवं कर्मचारियों को विद्यार्थियों की इस सफल नियुक्ति पर हार्दिक बधाई! यह उपलब्धि हमारे विद्यार्थियों, संकाय एवं कर्मचारियों की कठोर मेहनत तथा समर्पण का प्रमाण है। यह विभाग के शैक्षणिक कार्यक्रम की गुणवत्ता को भी अभिव्यक्त करती है।

हम दृढ़ विश्वास रखते हैं कि हमारे विभाग की वास्तविक सफलता ऐसे विद्यार्थियों के निर्माण में निहित है, जो यहाँ अर्जित ज्ञान और मूल्यों को आगे बढ़ाते हुए समाज और मानवता की प्रगति में सार्थक योगदान देंगे। अपने कुशल संकाय, समर्पित कर्मचारियों तथा प्रतिभाशाली विद्यार्थियों के सतत प्रयासों से मैं आश्वस्त हूँ कि हम एक सशक्त शैक्षणिक समुदाय के रूप में निरंतर उत्कृष्टता प्राप्त करते रहेंगे और प्रौद्योगिकी एवं समाज की प्रगति में उल्लेखनीय योगदान देंगे।

डॉ. शंकर सिंह
प्रोफेसर एवं विभागाध्यक्ष
यांत्रिक एवं असैनिक अभियांत्रिकी विभाग
स्लाईट लौंगोवाल

Message from the Editor

It gives me great pleasure to present to you **Volume 5, Issue 1** of *Mech-Times*, the official half-yearly magazine of the Department of Mechanical Engineering, SLIET Longowal. This magazine is a reflection of the energy, creativity, and commitment that defines our department. Whether it's academic excellence, research achievements, technical innovations, student activities, or faculty contributions, *Mech-Times* captures the spirit and hard work that goes on throughout the year.

Through this magazine, we aim to bring everyone in the department a little closer, whether you're a student, faculty member, staff or an alumnus.

I would like to express my heartfelt thanks to all the contributors. Special thanks to the editorial team, who worked with great care and attention to bring this issue together. Your time and effort are deeply appreciated.

As you read through this edition, I hope you find inspiration, motivation, and a renewed sense of connection with the Mechanical Engineering community. Let *Mech-Times* be a reminder of what we can achieve when we work together and support each other.

Happy Reading!

Warm Regards,

Dr. Vivek Kumar
Editor, Mech-Times
Department of Mechanical Engineering SLIET Longowal

संपादक की ओर से संदेश

*मुझे अत्यंत हर्ष है कि मैं आपको मैकेनिकल इंजीनियरिंग विभाग, एस.एल.आई.ई.टी. लोंगोवाल की आधिकारिक अर्धवार्षिक पत्रिका " **मेक-टाइम्स** " के खंड 5, अंक 1 को प्रस्तुत कर रहा हूँ। यह पत्रिका हमारे विभाग की ऊर्जा, सृजनशीलता और प्रतिबद्धता का प्रतिबिंब है। चाहे वह शैक्षणिक उत्कृष्टता हो, शोध उपलब्धियाँ, तकनीकी नवाचार, छात्र गतिविधियाँ हों या संकाय योगदान "मेक-टाइम्स " पूरे वर्ष भर विभाग में होने वाले परिश्रम और समर्पण को दर्शाती है।*

इस पत्रिका के माध्यम से हमारा प्रयास है कि विभाग के सभी सदस्य—चाहे वे छात्र हों, संकाय सदस्य हों, कर्मचारी हों या पूर्व छात्र—एक-दूसरे के और निकट आ सकें।

मैं सभी योगदानकर्ताओं के प्रति हृदय से आभार व्यक्त करता हूँ। विशेष धन्यवाद संपादकीय टीम को, जिन्होंने अत्यंत सावधानी और समर्पण के साथ इस अंक को तैयार किया। आपके समय और परिश्रम की हम गहराई से सराहना करते हैं।

*आशा है कि जब आप इस अंक को पढ़ेंगे, तो आपको प्रेरणा, उत्साह और मैकेनिकल इंजीनियरिंग समुदाय से जुड़ाव की नई भावना प्राप्त होगी। " **मेक-टाइम्स** " हमें यह याद दिलाती है कि हम मिलकर और एक-दूसरे का सहयोग करके क्या कुछ हासिल कर सकते हैं।*

शुभ पठन!

सादर,

डॉ. विवेक कुमार
*संपादक, "**मेक-टाइम्स** "*
यांत्रिक अभियांत्रिकी विभाग
स्लाईट लौंगोवाल

Faculty Development Program (FDP)

One-week Faculty Development Program (FDP) on "Emerging Advancements in Electric Vehicle Technology (EAEVT-2025)" (29th January to 31st January 2025)

The Department of Mechanical Engineering, SLIET, LONGOWAL organized a one-week Faculty Development Program (FDP) on "**Emerging Advancements in Electric Vehicle Technology (EAEVT-2025)"** from 29th January to 31st January 2025.

The Chairperson of FDP-EAEVT 2025 was **Prof. Shankar Singh**, Head of the Department (Mechanical & Civil Engineering). The Coordinators of FDP- EAEVT 2025 were **Dr Vivek Kumar**, Associate Professor (Mechanical) and **Dr Sumit Kumar**, Assistant Professor (Mechanical).

A total of 95 participants attended, including faculty members, industry experts, and research scholars from various institutes. The faculty participants and few experts gave their feedback during valedictory, and praised Director, SLIET and the Organizing team for conducting such an informative Faculty Development Program on Emerging Advancements in Electric Vehicle Technology.

One-week Faculty Development Program (FDP) on "Additive Manufacturing and Material Characterization (AMMC-2025)" (24rth February to 28th February 2025)

The Department of Mechanical Engineering, SLIET, LONGOWAL organized a one-week Faculty Development Program (FDP) on "**Additive Manufacturing and Material Characterization (AMMC-2025)"** from 24rth February to 28th February 2025.

The event commenced under the esteemed Chairpersonship of **Prof. Shankar Singh**, Head of the Department (Mechanical & Civil Engineering). The STTP is being coordinated by **Dr. Anil Kumar Singla**, Associate Professor, **Dr. Anuj Bansal**, Assistant Professor, and Co-Coordinator **Er. Jonny Singla**, Assistant Professor, from the Department of Mechanical Engineering.

A total of 104 participants attended, including faculty members, industry experts, and research scholars from various institutes. The faculty participants and invited experts provided positive feedback, commending SLIET's leadership and the organizing committee for curating such a comprehensive and enriching STTP on Additive Manufacturing and Material Characterization.

Sant Longowal Institute of Engineering and Technology Longowal (Deemed-to-be-University under MoE, Govt. of India)

Online Mode Short Term Training Programme (STTP)

On

Additive Manufacturing and Material Characterization (AMMC-2025) (February 24-28, 2025)

STTP Schedule

Dates & Timing	Session 1 (10:00 AM-11:15 AM)	Session 2 (11:30 AM-12:45 PM)	Session 3 (2:30 PM- 03:45 PM)
Day 1 24-02-2025	**Inauguration (10:30 AM to 11:15 AM)**	Advancements in Metal Additive Manufacturing **Prof. Rupinder Singh NITTTR Chandigarh**	Defects in AM components and Effects of Post Processing on Mechanical Performance of AM components **Dr. Anil Kumar Singla SLIET Longowal**
Day 2 25-02-2025	Magnesium based biodegradable implants **Dr. Kamal Kumar PEC Chandigarh**	Modelling and Simulation of Additive Manufacturing Processes **Prof. Anupam Agrawal IIT Ropar**	Wire Arc Additive Manufacturing (WAAM)-Introduction, Scope & Potential Applications **Prof. Amandeep Singh Shahi SLIET Longowal**
Day 3 26-02-2025	Additive Manufactured Aerospace Materials, Machining Challenges and Sustainable Solutions **Dr. Navneet Khanna IITRAM Ahmedabad**	Challenges in Development of Aluminium and Titanium Components using WAAM **Dr. Anuj Bansal SLIET Longowal**	Practical Session – I on WAAM-CMT **Er. Jonny Singla SLIET Longowal**
Day 4 27-02-2025	Advances in 3D Bioprinting for tissue engineering **Prof. Navin Kumar IIT Ropar**	Cold Spray Based Additive Manufacturing: Introduction and Applications **Prof. Harpreet Singh IIT Ropar**	STL file editing and manipulation **Dr. Narendra Kumar NIT Jalandhar**
Day 5 28-02-2025	Additive manufacturing of Polymer components: Practical Aspects **Dr. Sanjeev Katoch GM, IAHT, Ludhiana**	Practical Session – II on WAAM-CMT **Er. Divesh Bharti SLIET Longowal**	**Valedictory (12:45 PM Onwards)**

WEDNESDAY Times NATIONAL NEWS PAPER

The inauguration of Short-Term Training Programme (STTP) (Online Mode) on 'Additive Manufacturing and Material Characterization

R N Kansal (WednesdayTimes)

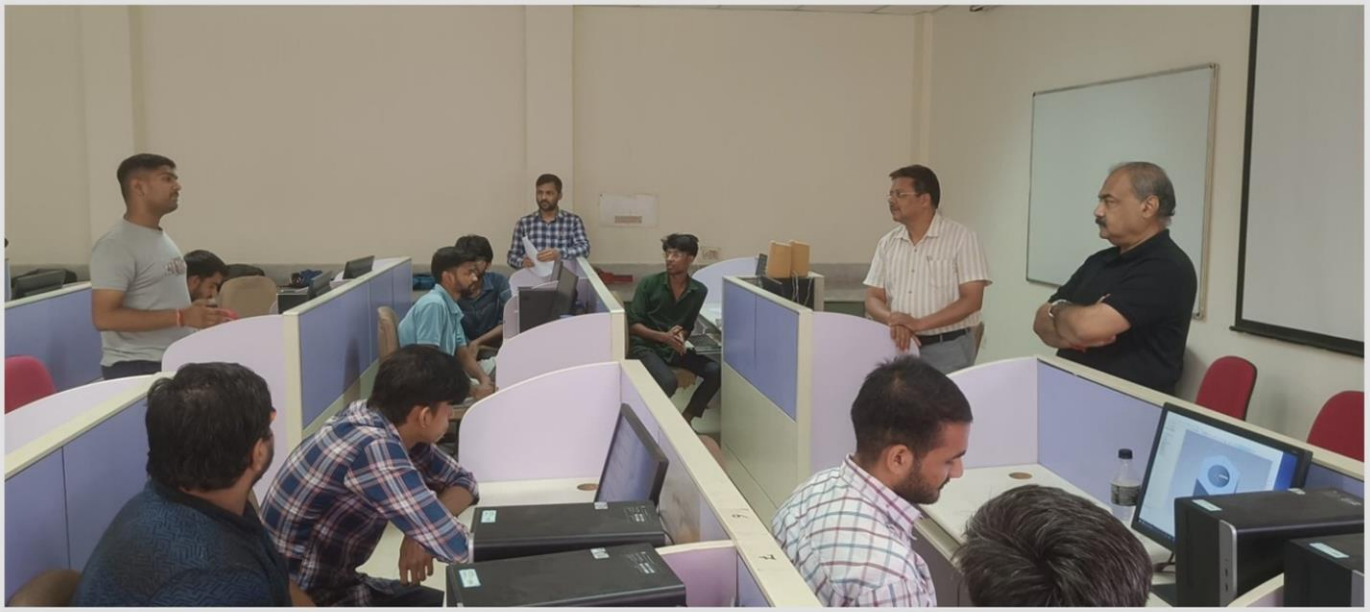
Sangrur, Feb 24.....The inauguration of Short-Term Training Programme (STTP) (Online Mode) on 'Additive Manufacturing and Material Characterization (AMMC-2025)' (24th – 28th February 2025) was held on 24th February 2025 in the Department of Mechanical Engineering at Sant Longowal Institute of Engineering and Technology (SLIET), Longowal.The Chairperson of STTP-AMMC 2025 is Prof. Shankar Singh, Head of the Department (Mechanical & Civil Engg.). The Coordinators of STTP-AMMC 2025 are Dr Anil Kumar Singla, Associate Professor (Mechanical), Dr Anuj Bansal, Assistant Professor (Mechanical), and Co-coordinator Er. Jonny Singla, Assistant Professor (Mechanical).Prof. Mani Kant Paswan, Director, SLIET & Patron AMMC 2025, appreciated the Organizing Committee 'AMMC 2025' and stated that the STTP on 'Additive Manufacturing and Material Characterization exemplifies SLIET's dedication to academic excellence and innovation in engineering education. Chief Guest Professor J.S. Dhillon in his inaugural address emphasised the pivotal role of Additive Manufacturing (3D printing) in today's manufacturing landscape. He highlighted that the theme chosen is rapidly evolving, which provides significant research and teaching opportunities, enabling faculty to stay abreast of the latest industry trends and innovations. Prof. A.S. Shahi, Dean (Academics) & Co-Patron AMMC 2025, in his message wrote that the world is looking towards Additive manufacturing and Rapid prototyping, and emphasised the need to study new technologies related to the material characterisation.The inaugural session was presided over by Head of the Department (Mechanical & Civil Engg.) Prof. Shankar Singh. He opined that the topic of 'Additive Manufacturing and Material Characterization' for the STTP has been selected because it epitomizes a revolutionary shift in manufacturing technologies, offering substantial advancements in efficiency, customization, and sustainability. He extended his best wishes to Coordinators and the participants. Prof. Shankar Singh, Chairperson AMMC 2025 apprised that the Coordinators Dr Anil Kumar Singla, Dr Anuj Bansal and the Co-coordinator Er. Jonny Singla has worked very hard to ensure this AMMC 2025 a success, resulting in more than hundred participants (102 numbers) comprising 62% from the institutes of high repute (other than SLIET Longowal) including IIT's and NIT's. Their hard work in enlisting galaxy of experts, who will deliver talks in AMMC 2025, is commendable. Dr Anil Kumar Singla, Coordinator AMMC 2025 welcomed all the dignitaries and participants. He gave the brief about the technical sessions to be held in one week. He asserted that Additive manufacturing has revolutionized the way we design, prototype, and manufacture complex structures with enhanced precision and minimal material wastage. This disruptive technology is redefining traditional manufacturing methodologies by allowing for lightweight, high-strength, and customized components to be fabricated with efficiency. The faculty, staff and the participants were present physically, while others joined virtually during inauguration. Finally, the inaugural session was concluded, by expressing gratitude to all the guests and participants by Dr Anuj Bansal, Coordinator AMMC 2025.

Workshop Organized

15-Day CAD/CAM Workshop Successfully Conducted at the Department of Mechanical Engineering (5th June to 20th June 2025).

The Department of Mechanical Engineering organized a 15-Day Training Program (5th June t0 20th June 2025) on **AutoCAD and Pro/ENGINEER (Pro/E)** for undergraduate students. The program saw enthusiastic participation from 17 students, coordinated by **Prof. Ravindra K. Saxena** and **Dr. Sunil Kumar,** Assistant Professor.

Prof. Shankar Singh, Head of the Department (Mechanical), inspired the students to engage in self-practice and skill development, emphasizing the relevance of such training programs in bridging the gap between academic and industrial needs.



Industry–Institute Interaction

1. A team from **YANMAR Agricultural Machinery India Pvt. Ltd. (YAMIN), Morinda (District Ropar, Punjab)**—a 100% subsidiary of the Yanmar Group, Japan—visited the Department of Mechanical Engineering, SLIET Longowal, on 24rth April 2025.

   The team, comprising **Er. Varinder Bedi (Quality Management), Nakashima Ryusuke-san (Engineering), Higashimura Takashi-san (Production), Yasumoto Hayato-san (Quality), and Sumit Kaplish-san (Operations),** evaluated the welding competencies available in the department and explored avenues for industrial training, internships, project collaborations, and consultancy.

   The entire interaction was thoughtfully arranged and coordinated by **Prof. A. S. Shahi.**
   Prof. Shankar Singh, Head of the Department (Mechanical Engineering), extended a warm welcome to the visiting delegation and provided continuous support throughout the departmental visit.

2. A team from **Metlonics Industries Pvt. Ltd., Mohali** visited the Department of Mechanical Engineering, Sant Longowal Institute of Engineering and Technology (SLIET), Longowal on 23rth May 2025.
   The visiting team included: **Mr. Gurdeep Singh – Technical Advisor; Mr. Sunil Dhiman – Welding Manager, Quality Assurance & Proud Alumnus of SLIET; Ms. Arshveen Kaur – HR Head**. As part of their placement drive, the team engaged in meaningful interaction with students, sharing insights into industry expectations and career opportunities.

   Prof. Shankar Singh, extended full support and warmly welcomed the visiting team during their tour. The team appreciated the infrastructure, hands-on learning environment, and the quality of students nurtured by the Faculty & Technical staff of Mechanical Engineering department.

Placements Highlights

The Department of Mechanical Engineering, SLIET Longowal, has achieved an outstanding milestone in Placements 2025 (Session 2024–25). Under the visionary leadership of Hon'ble Director **Prof. Mani Kant Paswan**, and with the strategic support of **Dean (A & IR) Prof. R.K. Mishra and Head (Training & Placement) Prof. Major Singh,** the department has set a new benchmark of success.

Out of 121 eligible students, 112 have been successfully placed, achieving an impressive placement percentage of 92.56%. This achievement reflects the department's strong academic foundation, rigorous curriculum, and consistent industry engagement. It is a testament to the unwavering dedication of the faculty, the tireless efforts of the staff, and the relentless determination of our students.

A special note of appreciation goes to **Prof. Shankar Singh**, Head, Department of Mechanical Engineering, for his continued motivation, strategic guidance, and leadership that have played a crucial role in driving this achievement.

Branch wise placement record

Name of Department	No. of eligible & interested students	No. of placed students	% of Placed students	Maximum CTC (In Lacs)	Median CTC (In Lacs)
Chemical Engineering	28	16	57.14	11.06	4.00
Computer Science & Engineering	87	57	65.52	27.00	4.00
Electronics & Communication Engineering	27	11	40.74	4.25	4.00
Electrical Engineering	43	32	74.42	11.06	4.20
Instrumentation & Control Engineering	26	24	92.31	11.06	4.80
Mechanical Engineering	121	112	92.56	9.50	4.00
Food Technology	25	15	60.00	3.60	3.60

HEAD (T&P)

Upcoming Diploma Programs

We are pleased to share a significant academic milestone under the visionary leadership of our Hon'ble Director, **Prof. Mani Kant Paswan**, The Department of **Mechanical Engineering, SLIET Longowal**, has introduced two new Diploma programs, designed to align with the latest industry needs and emerging technologies.

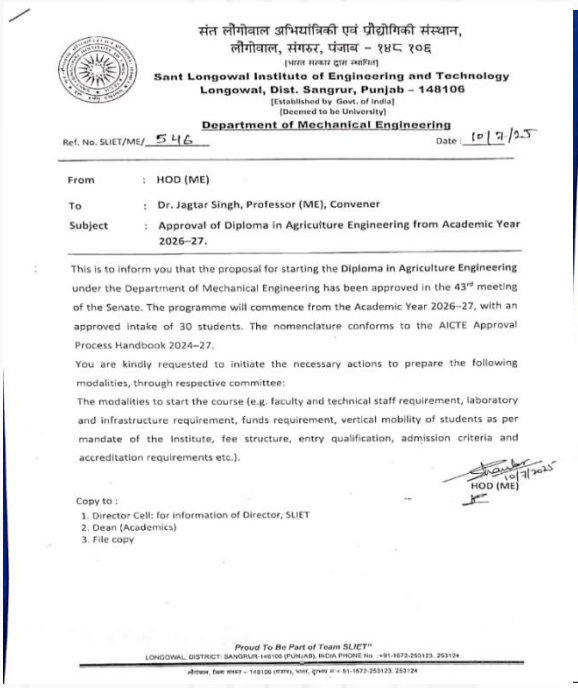
1. **Diploma in Automation & Robotics (as per AICTE Nomenclature)**
2. **Diploma in Agriculture Engineering (as per AICTE Nomenclature)**

A special thanks to Prof. Shankar Singh, Head, Department of Mechanical Engineering, whose relentless efforts, strategic vision, and dedicated leadership have been instrumental in steering this transformative academic expansion forward. His commitment continues to inspire excellence across the department.
The syllabus of ICD (Agricultural Engineering) has been prepared and finalized with the expertise and contributions of the following faculty members.

- Dr. Jagtar Singh , Prof. (Convener)
- Dr. Anil Kumar Singla, AsP(Member)
- Dr. Anuj Bansal, AP(Member)
- Dr. Tijender Singh, AP(Member)
- Sh. Navinder Singh, Tech(Member)

The syllabus of ICD (Automation and Robotics) has been prepared and finalized with the expertise and contributions of the following faculty members.

- Dr. R.K Saxena, Prof.(Convener)
- Dr. Sunil Kumar, AsP(Member)
- Dr. Vivek Kuamr, AsP(Member)
- Er. Lalit Ahuja, AP(Member)
- Dr. Yogesh Kumar, AP(Member)



संत लौंगोवाल अभियांत्रिकी एवं प्रौद्योगिकी संस्थान,
लौंगोवाल, संगरूर, पंजाब – १४८ १०६
[भारत सरकार द्वारा स्थापित]
Sant Longowal Institute of Engineering and Technology
Longowal, Dist. Sangrur, Punjab – 148106
[Established by Govt. of India]
[Deemed to be University]
Department of Mechanical Engineering

Ref. No. SLIET/ME/ 546 Date : 10/7/25

From : HOD (ME)
To : Dr. Jagtar Singh, Professor (ME), Convener
Subject : Approval of Diploma in Agriculture Engineering from Academic Year 2026–27.

This is to inform you that the proposal for starting the **Diploma in Agriculture Engineering** under the Department of Mechanical Engineering has been approved in the 43rd meeting of the Senate. The programme will commence from the Academic Year 2026–27, with an approved intake of 30 students. The nomenclature conforms to the AICTE Approval Process Handbook 2024–27.
You are kindly requested to initiate the necessary actions to prepare the following modalities, through respective committee:
The modalities to start the course (e.g. faculty and technical staff requirement, laboratory and infrastructure requirement, funds requirement, vertical mobility of students as per mandate of the Institute, fee structure, entry qualification, admission criteria and accreditation requirements etc.).

HOD (ME)

Copy to :
1. Director Cell: for information of Director, SLIET
2. Dean (Academics)
3. File copy

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LONGOWAL, DISTRICT: SANGRUR-148106 (PUNJAB), INDIA PHONE No. +91-1672-253123, 253124

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लौंगोवाल, संगरूर, पंजाब – १४८ १०६
[भारत सरकार द्वारा स्थापित]
Sant Longowal Institute of Engineering and Technology
Longowal, Dist. Sangrur, Punjab – 148106
[Established by Govt. of India]
[Deemed to be University]
Department of Mechanical Engineering

Ref. No. SLIET/ME/ 547 Date : 10/7/25

From : HOD (ME)
To : Dr. R. K. Saxena, Professor (ME), Convener
Subject : Approval of Diploma in Automation and Robotics from Academic Year 2026–27.

This is to inform you that the proposal for starting the **Diploma in Automation and Robotics** under the Department of Mechanical Engineering has been approved in the 43rd meeting of the Senate. The programme will commence from the Academic Year 2026–27, with an approved intake of 30 students. The nomenclature conforms to the AICTE Approval Process Handbook 2024–27.
You are kindly requested to initiate the necessary actions to prepare the following modalities, through respective committee:
The modalities to start the course (e.g. faculty and technical staff requirement, laboratory and infrastructure requirement, funds requirement, vertical mobility of students as per mandate of the Institute, fee structure, entry qualification, admission criteria and accreditation requirements etc.).

HOD (ME)

Copy to :
1. Director Cell: for information of Director, SLIET
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<table>
<tr><td>ITEM NO. 43.8.2</td><td>PROPOSAL TO START INTEGRATED CERTIFICATE DIPLOMA (ICD)/ DIPLOMA PROGRAMMES AT SLIET LONGOWAL.</td></tr>
<tr><td></td><td>In response to industry needs, national development goals and to improve the Gross Enrolment Ratio as per NEP-2020, the Institute is planning to Introduce Diploma Programme (03 year duration) in the following disciplines from AY 2026-27:
<table>
<tr><th>S.N.</th><th>Name of the Proposed Programme</th><th>Department</th><th>Proposed Intake</th></tr>
<tr><td>1.</td><td>Diploma in Automation and Robotics</td><td>Mechanical Engineering</td><td>30</td></tr>
<tr><td>2.</td><td>Diploma in Agriculture Engineering</td><td>Mechanical Engineering</td><td>30</td></tr>
<tr><td>3.</td><td>Diploma in Biomedical Engineering</td><td>Electrical & Instrumentation Engineering, Chemical Engineering and Food Engineering & Technology</td><td>30</td></tr>
</table>
The nomenclature of the proposed Diploma Programmes is as per AICTE Approval Process Handbook 2024-27.
The modalities to start the course (e.g. faculty and technical staff requirement, laboratory and infrastructure requirement, funds requirement, vertical mobility of students as per mandate of the Institute, fee structure, entry qualification, admission criteria and accreditation requirements etc.) shall be completed in due course of time by the programme offering Departments.
The proposal to start new Diploma Programmes from AY 2026-27 is hereby submitted before the Senate for consideration and approval, please.</td></tr>
<tr><td>Resolution:</td><td>The Senate approved the proposal to start new Diploma Programmes from Academic Year 2026-27.</td></tr>
<tr><td>ITEM NO. 43.9</td><td>REVISION AND PREPARATION OF STUDY SCHEME AND SYLLABUS FOR THE ACADEMIC PROGRAMMES BEING OFFERED AT SLIET LONGOWAL</td></tr>
<tr><td>ITEM NO. 43.9.1</td><td>RATIFICATION OF STUDY SCHEME AND SYLLABUS FOR THE B.E. IN ARTIFICIAL INTELLIGENCE AND DATA SCIENCE (FIRST YEAR)</td></tr>
<tr><td></td><td>The Board of Studies of Department of Computer Science and Engineering, in its meeting held on 23rd May, 2025, finalized and approved the study scheme and syllabus of newly introduced B.E. Programme in Artificial Intelligence and Data Science (First Year only).
The Minutes of BOS along-with study scheme and syllabus for B.E. Programme in Artificial Intelligence and Data Science (First Year only) is placed at Annexure-H (Page 161 to 224) for ratification, please.</td></tr>
<tr><td>Resolution:</td><td>The Senate ratified the Minutes of BOS along-with study scheme and syllabus for B.E. Programme in Artificial Intelligence and Data Science (First Year only).</td></tr>
<tr><td>ITEM NO. 43.9.2</td><td>RATIFICATION OF SYLLABUS FOR THE ICD PROGRAMME IN COMPUTER SCIENCE ENGINEERING (2ND YEAR ONWARDS)</td></tr>
<tr><td></td><td>The Board of Studies of Department of Computer Science and Engineering conducted in its meeting held on 23rd May, 2025, approved the syllabus of restructured course of ICD, from 2024 batch onwards.
The Minutes of BOS along-with syllabus of restructured course of ICD-DCS-CDE, from 2024 batch onwards is placed at Annexure-H (Page 171 to 224) for ratification, please.</td></tr>
<tr><td>Resolution:</td><td>The Senate ratified the Minutes of BOS along-with syllabus of restructured course of ICD-DCS-CDE, from 2024 batch onwards.</td></tr>
<tr><td>ITEM NO. 43.9.3</td><td>RATIFICATION OF SYLLABUS FOR ICD-DIN-CSMM (2ND YEAR AND 3RD YEAR)</td></tr>
<tr><td></td><td>The Board of Studies of Department of Computer Science and Engineering, in its meeting held on 22nd May, 2025, finalized and approved the syllabus of Certificate in Servicing and Maintenance of Medical Instruments (CSMM) and Diploma in Instrumentation and Process Control for 2nd and 3rd year. The BoS also finalized and approved the QP (QPIE-201, QPIE-202, QPIE-301 and QPIE-302.
The Minutes of BOS along-with syllabus is placed at Annexure-I (Page 225 to 316) for ratification, please.</td></tr>
<tr><td>Resolution:</td><td>The Senate ratified the Minutes of BOS along-with syllabus ICD-DIN-CSMM (2nd year and 3rd year).</td></tr>
</table>

Student corner

1. Empowering Women in Welding: A Proud Achievement for SLIET

The Department of Mechanical Engineering, SLIET, takes immense pride in announcing that our students **Ms Sharanya Upadhyay (Regn. No. 2336113) and Ms. Khushi Maurya (Regn. No. 2336056) from the 2022 batch (3rd Year) successfully participated in the Women Welding Fraternity Competition 2025 (WWFC-2025), Zonal Level, organized by Fronius India.**

It is to be mentioned that under the mentorship of **Dr. Harish Kumar Arya, AsP ME, the students namely Ms Sharanya Upadhyay and Ms Khushi Maurya participated** at WWFc-2025 and cleared the first round successfully.

HOD, Prof. Shankar Singh, congratulated both students for their outstanding participation and encouraged all students to strive for excellence in their respective fields. His inspiring words reinforced the department's commitment to nurturing talent and pushing boundaries in engineering.


Certificate

Fronius

Ms. SHARANJA UPADHYAY

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY, PUNJAB

has participated in the

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10th & 11th February, 2025

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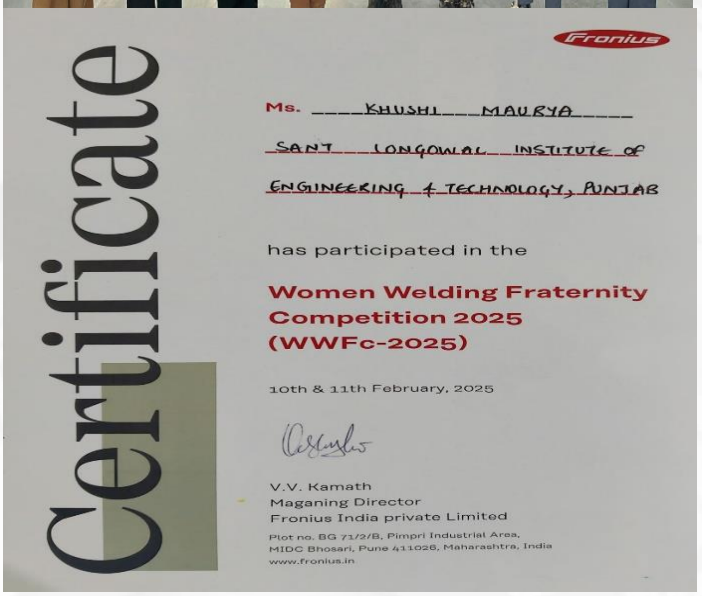
Certificate

Fronius

Ms. KHUSHI MAURYA

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY, PUNJAB

has participated in the

Women Welding Fraternity Competition 2025 (WWFc-2025)

10th & 11th February, 2025

V.V. Kamath
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2. **SLIET Quality Publication Award (SQPA)**

Mr. Ranbir Singh Rooprai has been awarded the **SLIET Quality Publication Award (SQPA)** in recognition of his exceptional research contributions. Congratulations to the supervisors Dr. Jagtar Singh, Professor and Dr. Anuj Bansal, Assistant Professor, for their dedicated guidance and support throughout this research journey.

संत लौंगोवाल अभियांत्रिकी एवं प्रौद्योगिकी संस्थान
लौंगोवाल-148106, जिला-संगरूर (पंजाब), भारत
(विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 के खंड 3 के तहत मानद विश्वविद्यालय)
(शिक्षा मंत्रालय, भारत सरकार द्वारा स्थापित)

SANT LONGOWAL INSTITUTE OF ENGINEERING AND TECHNOLOGY
LONGOWAL-148 106, DISTT. SANGRUR (PUNJAB), INDIA
(Deemed-to-be-University Under Section 3 of UGC Act, 1956)
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संदर्भ सं/Ref. No. SLIET/AS/ 2876 दिनांक/DATE: 23-1-2025

CERTIFICATE OF APPRECIATION

Under the SLIET Quality Publication Award (SQPA) scheme, the certificate of appreciation is hereby given to Mr. Ranbir Singh Rooprai, Ph.D. Research Scholar, bearing Regn. No.PME 2116, Department of Mechanical Engineering, for the publication of the following research papers in Web of Sciences (WoS) journals with an impact factor of one or above, in addition to the mandatory requirement of two research papers as per the detail given below:

S. No.	Title of Research Papers	Name of Journal
1	Investigating wear characteristics of Inconel 625 and VC-based claddings on EN8 steel developed by WAAM	Journal of Materials Engineering and Performance

The Institute congratulates and appreciates for the outstanding achievement made by him as Research Scholar and by his Supervisor(s), Dr.Jagtar Singh and Dr. Anuj Bansal.

23/01/25
Prof. A.S. Shahi
Dean (Academics)

लौंगोवाल, जिला-संगरूर-148106 (पंजाब) भारत, दूरभाष सं +91-1672-280057, 253100 (निदेशक), 253115 (कुलसचिव) फैक्स सं: +91-1672-280057
Longowal, Distt. Sangrur-148106 (Punjab), India, Phone No.: +91-1672-280057, 253100 (Director), 253115 (Registrar) Fax No.: +91-1672-280057

PhD Defenses

1. **Mr. Vikrant Singh** defended his thesis on **January 15, 2025**, on *"Slurry Erosion Behavior of High-Velocity Oxy-Fuel Sprayed Vanadium Carbide and Titanium Carbide-Based Coatings on Hydro-Machinery SS316 Steel with and without Hydrophobic Modifications"* His research was supervised by **Prof. Kulwant Singh and Prof. Arvind Jayant**, and examined by **Dr. Dixit Garg, Professor, National Institute of Technology, Kurukshetra**.

2. **Mr. Nitin Mahay** successfully defended his thesis on **January 24, 2025**, titled *" An Experimental Study on Use of Some Metallic Nanoparticles in a Coolant for Heat Exchanger."* He was guided by **Dr. R.K Yadav**, and his work was examined by **Dr. Vijay Kumar, Professor, National Institute of Technology, Kurukshetra.**

3. **Mr. Parameet Shakya** defended his research on **February 13, 2025**, on *" Effect of external magnetic field on bead geometry, metallurgical and mechanical properties of weld in gtaw process."* his supervisors were **Dr. Kulwant Singh and Dr. Haish Kumar Arya**, and his thesis was examined by **R. Mohd. Zaher Khan Yusufzai, Professor, Department of Mechanical Engineering, IIT (BHU), Varanasi.**

4. **Mr. Arvind Tiwari** successfully defended his thesis on **April 22, 2025**, titled *" Study of Select Issues in Implementation of Green Supply Chain Management Practices (GSCM) in Manufacturing Industries."* He was supervised by **Dr. Kulwant Singh, Professor (Mechanical), and Dr. Arvind Jayant, Professor, Department of Mechanical and Automation Engineering, IGDTUW, Delhi**, and his examiner was **Dr. S.P. Singh, Head, Department of Management Studies, IIT Delhi**.

5. **Mr. Sonu Ram** defended his thesis on **May 06, 2025**, on *" Some Studies on Performance and Emission in a Multi-Cylinder SI Engine Using Cylinder Deactivation."* He was guided by **Dr. R.K Yadav and Dr. Indraj Singh**, and examined by **Dr. Anil Kumar, Professor, Mechanical Engineering, Delhi Technological University (DTU), Delhi**.

6. **Mr. Sandeep Kumar Yadav** defended his thesis on **May 15, 2025**, on *" Modeling and Control of Multi-Arm Underwater Robot Manipulator."* He was guided by **Dr. Manoj Goyal and Dr. Sunil Kumar**, and examined by **Prof. Mohd Suhaib, Department of Mechanical Engineering, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi**.

Publications

1. Om, H., & **Singh, S.** (2025). Fabrication and characterization of vacuum induction-melted cast NiTiCu shape memory alloy. *Journal of Mechanical Science and Technology*, 1-7.
2. Tripathi, P., & **Singh, S**. (2025). Comparative study of conventional EDM and dry EDM machinability of superalloy Inconel 800. *Machining Science and Technology*, 1-22.
3. Tripathi, P., & **Singh, S.** (2025, May). Multi-objective optimization of machining parameters using GRA while performing electric discharge machining of Inconel-800. In *AIP Conference Proceedings* (Vol. 3185, No. 1, p. 020085). AIP Publishing LLC.
4. Kumar, S., & **Gupta, P.** (2025). Evaluating the Key TQM Principles for Effective Implementation Using a Hybrid ISM-DEMATEL Approach. *Journal of Advanced Manufacturing Systems*, *24*(01), 143-174.
5. Shrivastava, A., **Kumar, S., Kumar, S**., Kumar, H., Chauhan, S., Vashishtha, G., & **Kumar, R.** (2025). Influence of Titanium Oxide and Calcium Carbonate Powder as Additives on Tribological Characteristics of Lubricants. *Lubricants*, *13*(5), 229.
6. Kumar, A., Zimroz, R., Xiang, J., & **Kumar, R**. (2025). Editorial for Special Issue in Measurement Science and Technology Advancements in Condition Monitoring under Non-Stationary Operations. *Measurement Science and Technology*, *36*(7), 070202.
7. **Kumar, R.,** Maurya, A., Sekar, P., & Panigrahi, S. K. (2025). A single step sustainable manufacturing technology and synergy map for producing high performance magnesium alloy sheets. *Journal of Materials Processing Technology*, 118865.
8. Arpitha[1], L. M., **Kumar, R.** A., Fathima, Z., Yeshaswini[4], R., & Dhanyashree, G. (2025, February). Proposal of Machine Learning Algorithm for the Construction and Demolition Waste. In *Innovations in the Development of Sustainable Infrastructure: Proceedings of the International Conference on Technological Innovations in Multidisciplinary Engineering and Sciences (TIMES-2024)* (p. 159). Springer Nature.
9. Garg, J., Garg, S. B., **Singh, K.,** & Selvaraj, S. (2025). Influence of recycled SAW slag and process parameters on the composition of stainless steel claddings. *Journal of Adhesion Science and Technology*, 1-17.
10. Bhardwaj, S., **Singh, K.,** & Jayant, A. (2025). Optimizing solar-powered HHO gas production using hybrid RSM-ANN approach. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, *47*(2), 2523451.
11. Goyal, N., & **Singh, K.** (2025). Bead Optimization And Metallurgical Analysis Of Claddings Produced With Recycled Slag In Submerged Arc Welding. *Metallurgical and Materials Engineering*, 846-860.
12. **Verma, Y.,** Singh, R., Singh, A., **Ahuja, L.,** & Mudgal, D. (2025). Computationally Efficient Dynamic Timoshenko Beam Modeshapes for Vibration Analysis of Stiffened Plate Via Semi-analytical Approach. *Journal of Vibration Engineering & Technologies*, *13*(5), 339.
13. Ojha, N. K., **Saxena, R. K.,** Vashishtha, G., & Chauhan, S. (2025). Fracture Prediction in Weldox 700E Steel Subjected to High Velocity Impact Using LS-DYNA. *Applied Sciences*, *15*(7), 3677.
14. Pant, S., Kumar, S., & **Shahi, A. S**. (2025). Metallurgical, Mechanical, and Corrosion Behavior of Wire Arc Additively Manufactured Super Duplex Stainless Steel ER2594 Wall Fabricated using CMT Welding. *Journal of Materials Engineering and Performance*, 1-16.
15. Kunal, G., **Shahi, A. S., Saxena, R. K.,** & Paswan, M. K. (2025, March). Metallurgical and Mechanical Performance of Friction Stir Welded AA6082 Alloy. In *International Conference on Manufacturing, Material and Metallurgical Engineering* (pp. 59-69). Cham: Springer Nature Switzerland.
16. Ranjan, S., & **Shahi, A. S.** (2025, March). Metallurgical and Corrosion Behavior of Wire Arc Additively Manufactured and Thermally Aged AISI 316L. In *International Conference on Manufacturing, Material and Metallurgical Engineering* (pp. 31-39). Cham: Springer Nature Switzerland.

17. Rooprai, R. S., **Bansal, A., Singh, J., Singla, A. K.,** Singh, V., & Singh, H. (2025). Investigate the Dry Abrasion Behavior of AISI316 Clads on 080M40 Steel Using a Wire Arc Additive Manufacturing Process. *Surface Review and Letters*.
18. **Singla, J.,** Kumar, N., **Bansal, A., Singla, A. K.,** & Khanna, N. (2025). Fabrication of Ti6Al4V alloy by Wire Arc Additive Manufacturing Process and Comprehensive Machinability Analysis. *Wear*, 206147.
19. Rooprai, R. S., Singh, V., **Singh, J., Bansal, A., & Singla, A. K**. (2025). Optimizing Wear Performance in Vanadium-Carbide-Reinforced AISI316 Composite Claddings via Wire Arc Additive Manufacturing. *Journal of Materials Engineering and Performance*, 1-17.
20. **Bansal, A.,** Singh, V., & **Singla, A. K**. (2025). Influence of PTFE as Thin Top Layer on Hydrophobicity and Wear Behaviour of HVOF Sprayed TiC+ 50% NiCr Coating on SS410 Steel. *Solid State Phenomena*, *370*, 33-40.
21. Jha, S., Singh, V., **Bansal, A., Singh, J., Singla, A. K.,** Kumar, V., & Goyal, D. K. (2025). Characterization of RF-Sputtered ZnO Thin Film Coatings on Aluminum (Al6061): Microstructure, Wettability, Cavitation, and Corrosion Analysis. *Journal of Molecular and Engineering Materials*, *13*(01), 2440022.
22. Singh, V., Kaur, S., Kumar, V., **Bansal, A., & Singla, A. K**. (2025). Exploring slurry abrasion resistance of HVOF-sprayed VC and CoNi coatings: a response surface methodology approach. *Journal of Thermal Spray Technology*, *34*(4), 1251-1268.
23. Goyal, D. K., Singh, S., Kumar, P., **Bansal, A.,** & Singh, V. (2025). Enhancing Slurry Erosion Resistance of SS410 Steel through Laser Cladding of NiCr+ 50% WC-Based Ceramic Powders. *Journal of Materials Engineering and Performance*, 1-14.
24. Kumar, N., Setia, G., Singh, V., **Bansal, A.,** Nanda, T., & Mehta, R. (2025). Tribological performance and microstructural insights of epoxy-based GFRP nanocomposites reinforced with ceramic nanoclays for wear-resistant applications. *Journal of Manufacturing Processes*, *151*, 460-475.
25. Singh, V., Vishnoi, M., Jeyaprakash, N., Moinuddin, S. Q., De, A., & **Bansal, A.** (2025). Development and Performance Evaluation of La2O3 Doped WC-10Co-4Cr Coatings for Enhanced Biofouling and Slurry Abrasion Resistance. *Journal of Materials Research and Technology*.
26. Kumar, P., Patel, R., **Singh, I.,** Agrawal, S., & Kechagias, J. D. (2025). Optimising the fused filament fabrication process employing the experimental design approach: an expository paradigm under cold weather conditions and lightweight specimens. *Next Materials*, *7*, 1003

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