Short Term Training Programme (STTP)

On

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

Chairperson
Prof. Shankar Singh, HOD (ME)

Course Coordinator
Dr. Anil Kumar Singla
Dr. Anuj Bansal

Course Co-coordinator
Mr. Jonny Singla

Organized by

Department of Mechanical Engineering
Sant Longowal Institute of Engineering and Technology,
(Deemed to be University under MoE, Govt. of India)
Longowal, Dist. -Sangrur-148106 (Punjab)

www.sliet.ac.in

About the Institute:

Sant Longowal Institute of Engineering & Technology (SLIET), Deemed to be University, has been established and funded by MHRD (now MoE), Government of India in 1991 to provide technical education in emerging areas of Engineering and Technology. Accepting the new challenge of new education policy, the institute has the new concept of flexible, modular and multi-point entry/exit system and aims to provide technical manpower requirements at all levels to the industries. At present the institute offers Integrated Certificate-Diploma, B.E., M.Tech., M.Sc., and Ph.D. in various disciplines of Engineering and Technology, Science and Management. The institute has 76th NIRF ranking in Engineering Category and also accredited by NAAC. The 451 acres campus presents a spectacle of harmony and natural beauty.

About the Department:

The Department of Mechanical Engineering offers B.E. programme, two M.Tech., and Ph.D. programme. Five Integrated Certificate-Diploma (ICD) courses are also being offered covering major areas of mechanical engineering to produce skilled manpower for shop floor in industuries. At present, there are 40 highly qualified and motivated faculty members in the department, who are actively involved in different research projects and contributing in terms of publishing high quality international journals. Financial assistance is also being received to carry out Rural Development Activities. Patents are also to the credit of the faculty of the department. The department regularly organizes conferences and STTP courses.

Introduction:

Additive manufacturing (AM) is a novel method of manufacturing parts directly from digital model by using layer by layer material build-up approach. This tool-less manufacturing method can produce fully dense metallic parts with desired porosity values in small duration, with high accuracy. Some of the unique features of additive manufacturing like freedom of part design, desired complexity, controlling the component weight, and design for required functionality make it one of the best suitable option to manufacture components for various industries such as aerospace, oil & gas, marine and automobile. After the development of any part using AM, its characterization is essential for optimization and understanding of AM parameters. In view of this, STTP has been designed to highlight the various recent developments in this field.

Course Contents:

The programme is aimed at AM processes and characterization of AM components. Few important aspects that will be covered in this programme are -

- History and importance of AM technology
- Simulation of AM components
- Case studies on application of AM components.
- Mechanical properties of AM components.
- Defects in AM material
- Post processing of AM components.
- Characterization of AM components.
- Practical sessions on AM
- Machinability of AM

Resource Persons:

Faculty from reputed Academic Institutions/ Industries/ R&D labs across the globe who are broadly working in the field of AM at research and application level will conduct the online sessions in the programme.

Who can participate?

The faculty members of the engineering institutions, Research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry etc.)/ School Teachers and staff of host institutions.

Important Dates:

Last date for registration	19 February 2025
Intimation of selection	20 February 2025

Registration Fee:

- There is **no registration fee** for eligible participants from SLIET Longowal.
- For eligible participants from other organizations **the registration fee will be** as under:
  Faculty/Staff: Rs. 250/-
  Research Scholar/Students: Rs. 100/-
  Persons from Industry: Rs. 1000/-

How to Apply:

- The interested candidates are required to register for the FDP through following link on or before the last date of registration.
  https://forms.gle/ty94nBMqmHL6CCZu6

- The number of participants is limited to 100 and will be selected based on first come first serve basis. For any clarification, contact the FDP coordinator.

Certificate:

The certificates shall be issued to the participants who have successfully attended the program with minimum 80% attendance. The participants also have to provide compulsory online Feed-back on the last day of FDP.

Expected Outcomes:

At the end of the program the participants shall be able to understand the following key factors in the field of Additive Manufacturing and material characterization.

- Fundamental design aspects and parameters involved in various type of 3D printing techniques.
- Mechanical properties of 3D printed components.
- Metallurgical properties like porosity and defects in 3D printed components.
- Machinability and post processing of 3D printed components.

Organizing Committee:

Chief Patron:	Prof. Mani Kant Paswan, Director
Patron:	Prof. A. S. Shahi, Dean (Acad.)
Chairperson:	Prof. Shankar Singh (HOD, ME)
Coordinators:	Dr. Anil Kumar Singla
	Dr. Anuj Bansal
Co-coordinator:	Mr. Jonny Singla

Address for Communication:

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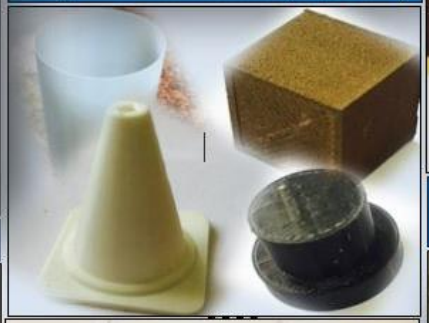
Additive Manufacturing and Characterization Facilities in SLIET:


Wire Arc Additive Manufacturing

Single Screw Extruder (Felfil evo)




Polymer/Ceramic FDM/LDM Printer (Delta Wasp 2040)


FE-Scanning Electron Microscope

Polymer-Metal/Composite FDM


X-ray diffractometer