



## **Faculty Development Programme (FDP)**

**On**

**Recent Trends in Additive Manufacturing  
(RTAM-2023)  
(December 18-22, 2023)**



**Course Coordinator**

**Dr. Anuj Bansal  
Dr. Anil Kumar 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](http://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 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 industries. 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 or components 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. Over the years, additive manufacturing (AM) has evolved as an established manufacturing philosophy. In view of this, this FDP has been planned to highlight the various recent developments in this field.

### **Course Contents:**

The programme is focused to discuss different manufacturing processes involving AM. Few important aspects that will be covered in this programme are -

- ❖ History and importance of AM technology in industrial sector.
- ❖ Parameters optimization of AM processes
- ❖ 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
- ❖ Future Perspective 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 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.) and staff of host institution.

### **Important Dates:**

Last date for applying 15 December 2023

## Registration Fee:

- ❖ There is **no registration fee** for eligible participants from SLIET Longowal.
- ❖ For eligible participants from other Institutions **registration fee will be** as under:  
Research Scholar/Students: Rs 200/-  
Faculty/Staff: Rs 500/-  
Persons from Industry: Rs 1000/-

## How to Apply:

- ❖ The interested candidates are required to register for the FDP through following link/QR-Code on or before the last date of registration.

<https://forms.gle/9yypBbi2zgKESDB47>



- ❖ 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.

- ❖ 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.
- ❖ Simulation and post processing of 3D printed components.

## Organizing Committee:

- Chief Patron:** Prof. Mani Kant Paswan, Director  
**Patron:** Prof. J. S. Dhillon, Dean (Acad.)  
**Chairman:** Prof. A. S. Shahi (HOD, ME)  
**Coordinators:** Dr. Anuj Bansal  
Dr. Anil Kumar Singla  
**Co-coordinator:** Mr. Jonny Singla  
Mr. Divesh Bharti

## Address for Communication:

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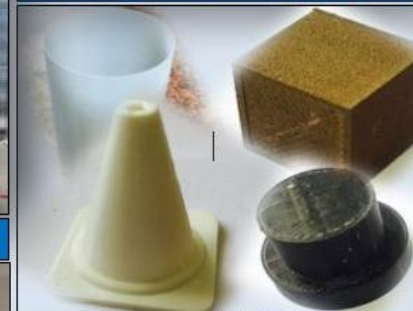
## Additive Manufacturing and Characterization Facilities in SLIET:



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