

Activity Report

Name of the Event: Workshop on “3D Printing of Metals”

Date and Venue: 27th Feb. to 28th Feb., 2020 at IIT Bombay, India.

Course Contents: Introduction to 3D printing of metals, Classifications & FDM, Powder-based processes & LOM, Liquid-based processes, An Overview of Rapid Manufacturing, MSMA-HLM, EBAM, RSM, Rapid Manufacturing of Metallic Objects - Indirect Routes: RFF, Indirect Routes: Sand 3DP, Indirect Routes: Ice 3DP, Metal Additive Manufacturing Simulation: From Design to Print, Demos in RM Lab: (a) FDM; (b) HLM; (c) Rapid Casting, Issues & Research Directions.

Expected benefits delivered & how it will helpful to the college: 3D printing of metals is becoming prominent technology in all the fields of automobile and medical sciences. This process comprised of developing the parts by depositing/fusing the material layer by layer. In this workshop, detailed introduction was given regarding various important processes of 3D Printing. This process can be highly efficient in developing the dies, patterns, shells by sintering of sand etc. Complicated parts can be made easily by using dies made from 3D printing. Bio-printers are also available which are able to print the tissues or even the organs using living cells. Thses processes have important applications in prosthetic manufacturing. As this is layer by layer addition manufacturing process so the porosity can be controlled and it remains uniform throughout the whole part. This process is advantageous as there is very less (negligible) porosity as compare to the casted products. So by sharing our views/experience with the students and other research scholars, it not only helps in gaining and expanding more knowledge about this field but also beneficiary for the research scholars/students to go ahead with their unique ideas to carry out their research work/projects. It will not only help the students for their future endeavor but also helps in growth of the institute at the global level.


Gulraj Singh