

*AICTE - Training & Learning  
(ATAL) Academy Sponsored  
Program on*

**3D Printing & Design for  
Innovative Medical Devices**

**28<sup>th</sup> June - 2<sup>nd</sup> July, 2021**



**Through - Online Mode**

**Organized by**  
**Department of Mechanical Engineering**  
**Malaviya National Institute of Technology Jaipur**  
*(Institute of National Importance under Ministry of Education, Govt. of India)*  
J.L.N. Marg, Jaipur-302017  
Rajasthan, India

## **About MNIT:**

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated with the status of "Institute of National Importance" by MHRD. The institute was established in 1963, and its campus spreads over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate and postgraduate courses (B.Tech., M.Tech. /MBA / M.Sc. & Ph.D.) to about 4500 students, in leading fields of engineering, technology, architecture, management & sciences. Through the internationally renowned faculty, laboratories with state of art equipment and excellent infrastructure, the institute is actively engaged in research, consultancy and developmental activities, besides imparting regular teaching.

## **Program Overview:**

In today's era of continuous innovation and demand for shorter product realization time especially in medical devices, 3D printing is a must know technology. 3D printing is used by designers for more than 30 years as a proto typing tool. In the last decade it gained attraction as a very important manufacturing technology for the design, development and production of end use products in fields such as Defence, Medical, Aerospace and Automobile. It empowers the innovators with enormous design freedom to manufacture customized products. The versatility of 3D printers is evident in variety of ways they are used today. It has the potential to democratize the production of components, and goods from food to medical supplies. In future, 3D printing machines could make their way into homes and offices. The goal of this faculty development programme is to provide the participants with an opportunity to conceive design and implement product manufacturing quickly and effectively using the 3D Printing technology especially in bio-medical domain. This course is also focused to explore interdisciplinary applications of 3D printing, innovation, challenges and research issues in current scenario.

## **Course Objective:**

The course is designed to impart knowledge and skills related to 3D printing technologies especially in bio-medical devices, selection of material and equipment and develop a product using this technique in Industry 4.0 environment.

## **Over the Course Participants will learn about:**

Introduction to 3D printing & Design;

CAD/CAE for 3D printing;

ASTAM F2792 standards of Additive Manufacturing Techniques wrt Medical Devices.

Identification and scope of Innovative Medical Products;

3D Printable Materials for Medical Devices

Product Orientation and Topology in Additive Manufacturing Systems;

Process Parameters in Additive Manufacturing Systems;

Post Processing Requirements & Techniques;

Inspection and Testing of Medical Devices;

Challenges and Opportunities in 3D printing;

Other applications of 3D printing in automotive, aerospace industries etc.;

## Demo of Additive Manufacturing Systems (Virtual)

### Target Audience and Guidelines:

- Faculty members, Ph.D. & M.Tech. Scholars of AICTE affiliated educational institutions are eligible to participate.
- There is no registration fees for the course and maximum 200 participants will be allowed to register.
- Participants will be selected on first - come first- serve basis.
- Selected candidates will be intimated by e-mail.
- Confirmation of participation by email is compulsory.

**All the participants need to apply through the ATAL Academy Portal**

**<https://www.aicte-india.org/atal> and selection will be on first come first serve basis**

### Resource Persons:

Experts in this field from academia & industry such as Foreign Universities, IIT's, NIT's, and Industries.

**Co-ordinators:**       (1) Dr.Harlal Singh Mali, Associate Professor, MNIT Jaipur  
                              (2) Dr. Anup Malik, Assistant Professor, MNIT Jaipur

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For more details about AICTE-ATAL Academy please visit  
[www.aicte-india.org/atal](http://www.aicte-india.org/atal)

**Malaviya National Institute of Technology Jaipur**  
**Title of the Workshop: 3D Printing & Design for**  
**Innovative Medical Devices**  
**28<sup>th</sup> June - 2<sup>nd</sup> July, 2021**

<b>Time (IST) &amp; Dates</b>	9:15 AM to 11:15 AM	11:15 AM to 11:30 AM	11:30AM to 01:30 PM	1:30 PM to 3:00 PM	3:00 PM to 5:00 PM
28/06/2021	Inauguration	Break	Session 1	Lunch	Session 2
29/06/2021	Session 3	Break	Session 4	Lunch	Session5
30/06/2021	Session 6	Break	Session 7	Lunch	Session 8
1/07/2021	Session 9	Break	Session 10	Lunch	Session 11
2/07/2021	Session 12	Break	Session 13	Lunch	Session 14