

Teaching Learning Centre of NIT Warangal:

The Teaching-Learning Centre (TLC) is established at NIT Warangal with grants from the Ministry of Human Resource Development, Government of India under the scheme, 'Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching' (PMMMNTT). Under this scheme a separate building for TLC with the state-of-art training facilities which include a studio for video recording of lectures is going to come up. Many senior and young faculty members across various departments of the Institute are associated with this center as members of the Core-Team.

One of the important objectives of the center is to conduct short term and medium term training programs for Newly Inducted Teachers, In-Service Teachers and Teacher-Aspirants in Science and Engineering disciplines, so as to enhance their skills.

Other activities of the TLC include preparation of e-learning materials, offering courses on-line, curriculum development, carrying out research in pedagogy and integrating ICT into teaching-learning process.

About NIT Warangal:

National Institute of Technology Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 13 Departments offering eight undergraduate and 32 post-graduate programmes besides doctoral programmes. About 5000 students across the country and about 500 international students study in the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure, state of the art library, seminar halls, guest houses and laboratories.



Brief Profile of the Department:

The department of Mechanical Engineering offers an UG program, seven PG programs and a Ph.D program as well. There are 47 qualified and experienced faculty in the department. The department has liaison with reputed industries and R&D organizations like NFTDC, ARCI, BHEL, DMRL, DRDL, CMTI, etc. Presently the department is handling several R&D projects and consultancy works. The department has also been recognized as a QIP centre for M. Tech and Ph.D programs.

For any query regarding this workshop, please contact the Coordinators:

Dr. Y. Ravi Kumar,

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Prof. L. Krishnanand,

Professor, Mobile: 8332969311

Dr. M. Manjaiah,

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National Institute of Technology, Warangal

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Attractions in Warangal:



**PMMMNTT
Scheme**



A Six Day Faculty Development Programme on

**“Teaching and Learning of Metal
3D Printing Technology through
Hands-on Experience”**

19th - 24th March, 2020

Call for Registration and Participation

Coordinators

**Dr. Y. Ravi Kumar
Prof. L. Krishnanand
Dr. M. Manjaiah**

**Organized by the
Department of Mechanical Engineering**

**In association with the
Teaching Learning Centre
National Institute of Technology
Warangal - 506 004, Telangana State**

PANDIT MADAN MOHAN MALAVIYA TEACHING LEARNING CENTRE



Overview of the FDP:

3D printing is defined by the ASTM F42 committee as the fabrication of objects through the deposition of a material using a print head, nozzle, or other printer technology. However, the term is often used synonymously with **additive manufacturing (AM)**. In particular, it is associated with machines that are lower in relative price and overall functional capability. 3D Printing is used to build physical models, prototypes, patterns, tooling components and production parts with materials like plastics, metal, ceramic, glass, and composite materials. 3D Printing systems use thin, horizontal cross sections from computer-aided design (CAD) models, 3D-scanning systems, medical scanners, and video games to produce parts in about every shape imaginable.

Design and manufacturing organizations use 3D Printed parts for products in the consumer, industrial, medical, and military markets, to name just a few. Digital cameras, mobile phones, engine parts, parts and assemblies for airplanes and medical implants are examples of a very long list of products which are benefited by the 3D Printing technology.

Objectives:

1. To update the participants with the state of the art technologies in metal 3D printing.
2. To provide hands-on experience to the participants on the 3D modeling, STL file generation, build-setup preparation, 3D printing and post-processing techniques through hands-on sessions.
3. To enable participants to learn the industrial, real life and pedagogical applications of 3D printing.
4. To empower the teaching and learning capabilities of the participants with emphasis on improvisation of their teaching skills of advanced topics of metal 3D printing technology.

Topics to be covered:

- ✦ 3D printing emerging trends
- ✦ 3D printing file formats and software
- ✦ 3D printing process planning
- ✦ Polymer and ceramic printing processes
- ✦ Metal printing by LBM, EBM, DED, WAAM
- ✦ Powder characterization, micro structural and mechanical properties of AM
- ✦ 3D printing applications in automobile, aerospace, medical/dental etc.
- ✦ Hands-on experience on solid modelling, STL file generation, build-setup preparation, polymer and metal printing, post-processing methods.

Resource Persons:

Eminent faculty from IITs and NITs, Scientists from ARCI, DMRL, RRCAT, Engineers from 3D printing industries and Faculty from NIT Warangal, will deliver lectures, conduct workshop sessions and laboratory sessions.

Registration is open to:

Faculty members of engineering colleges working in mechanical/production/industrial engineering and allied departments.

Research Scholars, who have an aptitude to work in the area of 3D printing and desire to take up teaching profession as their career.

How to Apply:

Eligible candidates may apply by submitting the scanned copy of the filled in registration form without registration fee (attached with this mail/brochure) by Email to yrk@nitw.ac.in on or before 06th March, 2020.

Note: Participants are encouraged to bring their own laptops.

Selection and Intimation:

On receipt of the registration form, participants will be sent confirmation of their participation through email immediately. Then, they can send the registration fee on or before 10th March, 2020.

Registration fee:

Category	Local participants with lunch	Outstation Participants with accommodation breakfast, lunch, dinner
Faculty	Rs. 750/-	Rs. 1500/-
Research Scholars	Rs. 400/-	Rs. 800/-

(Working lunch will be provided for all the participants on all the days of the workshop)

Note: Registration fee for Faculty and Research Scholars of SC/ST category is half of the amounts mentioned above, as applicable.

Registration fee may be sent in the form of a DD or remitted through On-line/NEFT to the Bank account given below. Local participants may also pay the registration fee in cash to the Coordinator of the workshop. Scanned copy of the DD / Proof of remittance of the requisite registration fee (with transaction number if online transaction) shall be sent as attachment to the Email given above.

Account Name	DIRECTOR, RESEARCH ACCOUNT, NIT WARANGAL
Account Number	62266262236
Bank	State Bank of India (SBI)
Branch	NIT Warangal Campus
IFSC code	SBIN0020149

Accommodation:

Accommodation for the outstation participants will be provided upon request in the Institute Students Hostels only subjected to availability and as per the Institute rules on first come first served basis.

As the programme is conducted in a workshop mode with hands-on sessions, the number of participants in the workshop is limited to 40. **Candidates are advised to register early to avoid disappointment.**



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Through Hands-on Experience**

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Organized by the
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In Association with the
Teaching Learning Centre of NIT Warangal
Under the MHRD's PMMMMNMTT Scheme

REGISTRATION FORM

Name : _____

Date of Birth : _____

Place of Birth: Village/Town/City: _____ District: _____

Tick as applicable (Rural / Urban): _____ State: _____

Aadhaar number: _____ Gender (Put a ✓ Mark) M F

Category (Tick as applicable) : **Open / OBC / SC / ST / PWD**

Qualification : _____

Designation : _____

Organization : _____

No. of Years of Teaching Experience: _____

Address for Correspondence : _____

Mobile(s): _____ E-mail(s): _____

Accommodation: Required Not Required

Payment Details (DD)**: Amount: _____ DD No.: _____

Date: _____ Bank: _____ Branch: _____

Declaration by the Applicant

If selected, I agree to abide by the rules and regulations of the workshop/ training programme and shall attend all the sessions.

** Kindly go through the brochure before making payment (Payment should be done only after confirmation from the coordinator)

Date:

Signature of the Applicant

Recommended and Forwarded

Office Seal

Signature of the Head of the Department / Institution