



Yogesh TRIPATHI

Postdoctoral Fellow (IITG-TIDF)

A creative professional with teaching, research and industrial exposure in the areas of Mechanical Engineering

### Education

07/2015 - 03/2023

Motilal Nehru National Institute of Technology Allahabad  
Prayagraj- 211004, Uttar Pradesh

#### Ph.D. ( Mechanical Engineering )

##### Thesis Title:

"Implicit-function-based Design and Additive Manufacturing of Triply Periodic Minimal Surface Scaffolds for Bone Tissue Engineering".

<http://hdl.handle.net/10603/474919>

Thesis Supervisor(s): Prof. Mukul Shukla and Prof. Amba D. Bhatt

**Skills Acquired:** CAD, 3-D Printing, FE-simulation, Mechanical Characterization and in-Vitro Testing for Orthopedic Bio-material Development.

08/2010 - 07/2013

Jabalpur Engineering College  
Jabalpur, Madhya Pradesh

#### M.Eng. (Machine Design); 74.60%

##### Thesis Title:

Stress analysis of crane hook using Winkler-Bach theory and ANSYS finite element method: A comparative study.

Thesis Supervisor: Prof. U.K. Joshi

**Research Tool Used:** ANSYS and CATIA

07/2004 - 07/2008

Vindhya Institute of Technology and Science  
Satna, Madhya Pradesh

#### B.Eng. (Mechanical Engineering); 70.84%

**Major Project:** Design and experimental analysis of inclined solar water still.

**Minor Project:** Study of materials requirement planning at Satna Cement Works.

**Internship/ Industrial Training:** Gajra Gears Pvt. Ltd., Dewas, Indore, Madhya Pradesh.

✉ yogesht@tih.iitg.ac.in;  
yogeshtripathi.mnnit@gmail.com

🏠 LIG-32, Housing Board Colony, Mandakini Vihar, Satna-485001, Madhya Pradesh.

📅 Date of birth 08/01/1985

🇮🇳 Indian

☎ +91 85659 63428

📍 IIT Guwahati

👪 Married

🔗 <http://orcid.org/0000-0001-5134-387X>

### Assets:

### Integrity

### Lifelong Learning

### Interests:

### Research

Solid Mechanics & Design, Product Design & Development, CAD, FEA, 3D Printing, Biomedical Engineering and Robotics.

### Teaching

Machine Design, Mechanical Vibration & Noise Engineering, Fluid Mechanics, Modeling & Simulation

## Scholarship/ Distinction:

### PhD Fellowship

Full-time Institute Stipendiary (2015-20)

### Outreach:

#### e-Yantra (Certificate of Completion)

50 days crash course (MOOC) on embedded systems and robotics, e-Yantra, IIT Bombay,

#### GIAN (Global Initiative of Academic Networks)

Medical Prototyping using 3D Printing, July 15 – 19, 2019.

Venue: NIT Warangal

### Social networks:

**in**  
@<https://www.linkedin.com/in/yogesh-tripathi-357226>

### Languages:

English

Hindi

## Work Experience

01/2024 Indian Institute of Technology Guwahati  
Assam

### Postdoctoral Fellow



#### Project: "Technology for Underwater Exploration"

Project Director: Prof. Santosha K. Dwivedy, Professor, Department of Mechanical Engineering, IIT Guwahati

#### Key Responsibilities:

- Design and development of thruster for ROV application
- Team Member, development of sensors
- Teaching Assignment, ITI students for their skill development

09/2014 - 03/2015 Indian Institute of Technology Kanpur  
Uttar Pradesh

### Project Engineer



"Mechanics of Coherent Nano-Structures".

Research Tool Used: FEA ( *ABAQUS* )

09/2013 - 05/2014 Motilal Nehru National Institute of Technology Allahabad  
Prayagraj, Uttar Pradesh

### Visiting Faculty (Department of Applied Mechanics)



**Laboratory Classes:** Engineering Mechanics, Strength of Materials and Fluid Mechanics.

**Tutorial Classes:** Engineering Mechanics and Fluid Mechanics.

07/2012 - 07/2013 Vindhya Institute of Technology & Science  
Jabalpur, Madhya Pradesh

### Lecturer (Department of Mechanical Engineering)



**Lectures:** Machine Design, Mechanical Vibration and Fluid Mechanics.

**Laboratories:** Machine Design, Mechanical Vibration and Fluid Mechanics.

08/2008 - 08/2010 Universal Cables Limited  
Satna, Madhya Pradesh

### Sr. Engineer (Production)



**Supervised** the production of XLPE (cross-linked polyethylene) cables for electrical applications.

**Technology Employed:** Triple head extrusion-based centenary continuous vulcanization (CCV).

## Funded Research Project

### Project Title:

"Development of a 3-D Printed Orthopedic Cast for Wrist Fracture".  
(Completed).

**Funding Agency:** Design & Innovation Center (DIC) , MNNIT Allahabad.

## RELEVANT PROFESSIONAL ENGAGEMENTS

### (1) Talks Delivered

- Invited as an Expert speaker and delivered a talk on "**Medical Prototyping using 3-D Printing**" on November 01, 2023, organized by Department of Mechanical Engineering, Aditya College of Technology & Science (ACTS), Satna, Madhya Pradesh
- Invited to deliver a talk on "**Additive Manufacturing**" on 20 February 2016 in Kanpur University, Kanpur, Uttar Pradesh

### (2) Membership of Professional Bodies

- Member, International Association of Computer Science and Information Technology (IACSIT) (*Membership #: 80347747*)
- Member, International Association of Engineers (IAENG) (*Membership #: 130258*)

### (3) Journal Reviewer

- Reviewed a manuscript for the Journal of Medical Device, *ASME*
- Reviewed a manuscript for the International Journal of Mechanical Sciences, *Elsevier*

## Computer Skills

**Computer-Aided Design for Additive Manufacturing**

**Finite Element Simulation**

## Selected Research Publications

1. **Tripathi Y**, Shukla M, Bhatt AD. Idealization through interactive modeling and experimental assessment of 3D-printed gyroid for trabecular bone scaffold. *Proc Inst Mech Eng H*. June 2021. **(SCI Indexed)**
2. **Tripathi Y**, Shukla M. Bhatt AD. Implicit-Function-Based Design and Additive Manufacturing of Triply Periodic Minimal Surfaces Scaffolds for Bone Tissue Engineering. *J. of Materi Eng and Perform* 28, 7445–7451 (2019). **(SCI Indexed)**
3. **Tripathi, Y.**, & Shukla, M., Triply periodic minimal surface based geometry design of bio-scaffolds. In 2017 International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS), MNNIT Allahabad, Feburary 3-5, 2017 (pp. 348-350). **(Scopus Indexed)**
4. Md. Ahad Islam, M. Shukla and **Y. Tripathi**, "Development of a 3D printed orthopaedic cast for wrist fracture", International Conference on Industrial and Manufacturing Systems (CIMS-2020) at NIT Jalandhar, Oct. 2020. **(Scopus Indexed)**

## Declaration

I solemnly declare that all the information furnished in this document is free of errors to the best of my knowledge.

Date:

Place:

**(Yogesh Tripathi)**