



Dr. Mohammad Taufik

Designation	Assistant Professor G-I
Address	(O) Room No.: S/27, Department of Mechanical Engineering, MANIT, Bhopal, Madhya Pradesh, India 462003 (R) Quarter No.: VI/51, MANIT Faculty Quarter, Bhopal, Madhya Pradesh, India 462003
Phone	(office) +91-755-4051607, (Mobile) +91-8989632831
E-mail	mohammad.taufik[at]manit.ac.in, taufikmohd86[at]gmail.com
Educational Qualification	Ph.D. (Mechanical Engineering/Additive Manufacturing) M.Tech. (Mechanical Engineering/Computer Integrated Manufacturing with Distinction) B.Tech. (Mechanical Engineering)
Experience	More than 8 years of Teaching and Research
Specialization	<ul style="list-style-type: none">• Design & Manufacturing (D & M)• Additive Manufacturing (AM)• Computer Aided Manufacturing (CAM)• Computer-Aided Design (CAD)• Conventional Manufacturing Processes (CMP)
Publication	<ul style="list-style-type: none">• International Journals:32• National Journal: 04• National Conference:03• International Conference: 39 <p style="text-align: center;">Total Published Paper: 78</p> <p>International Journals</p> <ol style="list-style-type: none">1. M. Gupta, A. Arjariya, Krishnanand, and M. Taufik "Investigation on the effect of process parameters to improve the optical transparency of 3D Printed PLA Parts." <i>Journal of Advanced Manufacturing Systems</i> (2025): 1-26.2. A. Patel, Krishnanand, and M. Taufik "Surface Modification of PLA Filaments Using Nanoclay for Enhanced Fused Filament Fabrication Performance." <i>National Academy Science Letters</i> (2025): 1-6.3. Krishnanand, S. Kulshreshtha, and M. Taufik "Design and Development of Oblique Filament Making Machine for Fused Filament Fabrication 3D Printing Process." <i>Journal of Materials Engineering and Performance</i> (2025): 1-29.

4. Krishnanand, and **M. Taufik** "Surface roughness investigation of 3D printed parts via in-situ pellet-filament co-extrusion process." *Materials and Manufacturing Processes* (2025): 1029-1048.
5. N. Maruf, R. Purohit, and **M. Taufik**. " Role of 3D Printing in Healthcare: A Comprehensive Review on Treatment and Training" *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* (2025): 239-265.
6. J. Jain, N. Kumar, **M. Taufik** and P. K. Jain "Optimum part filling via layer-wise variation of raster angle in fused filament fabrication." *International Journal on Interactive Design and Manufacturing (IJIDeM)* (2024): 1-11.
7. M. Shubham, A. Nayak, and **M. Taufik**. "Estimation of surface roughness for digital light processing based additively manufactured parts." *Progress in Additive Manufacturing* (2024): 1-20.
8. N. Maruf, R. Purohit, and **M. Taufik**. "Materials for 3D printing in healthcare sector: A review." *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* 238.10 (2024): 939-963.
9. N. Maruf, R. Purohit, and **M. Taufik**. "3D printing in healthcare: A review on drug printing, challenges and future perspectives." *Materials Today Communications* (2024): 110199.
10. S. Bhandari, Krishnanand, S. Roy, A. Singh, and **M. Taufik**. "Design and fabrication of accelerometer sensor using fused filament fabrication technique." *Progress in Additive Manufacturing* (2024): 1-14.
11. S. Shivam, Krishnanand, and **M. Taufik**. "Tool path strategy for pellet and filament integrated fused deposition modelling." *International Journal on Interactive Design and Manufacturing (IJIDeM)* (2024): 1-20.
12. M Mehta, M Singh, V Francis, J Singh, **M Taufik**, Mathematical modelling, performance analysis and optimization for the availability of casting system using Markov integrated genetic algorithm approach, *International Journal on Interactive Design and Manufacturing*, Springer (2023).
13. M. Vispute, N. Kumar, **M. Taufik**, P.K. Jain, Improving surface finish of extrusion based additive manufactured parts using novel triangle based toolpath approach, *International Journal on Interactive Design and Manufacturing*, Springer (2023).
14. Praneet Pandey, Krishnanand, Ankit Nayak, **M. Taufik**, Development of Mathematical Model for Surface Roughness Estimation in Material Jetting 3D Printed Parts, *Proc. Inst. Mech. Eng. Part E J. Process Mech. Eng.* (2023).
15. A.K. Gupta, Krishnanand, **M. Taufik**, Effect of process parameters on performances measured in filament and pellets-based additively manufactured parts, *Proc. Inst. Mech. Eng. Part E J. Process Mech. Eng.* (2023). <https://doi.org/10.1177/09544089231175207>.
16. **M. Taufik**, Rotation about an arbitrary axis method to minimize volumetric error in additively manufactured parts, *Int. J. Interact. Des. Manuf.* (2023) 1–17. <https://doi.org/10.1007/s12008-023-01253-4>.
17. Krishnanand, V. Singh, V. Mittal, A.K. Branwal, K. Sharma, **M. Taufik**, Extrusion strategies in fused deposition additive manufacturing: A review, *Proc. Inst. Mech. Eng. Part E J. Process Mech. Eng.* (2023) 095440892211507. <https://doi.org/10.1177/09544089221150709>.

18. A.K. Gupta, **M. Taufik**, Investigation of dimensional accuracy of material extrusion build parts using mathematical modelling and artificial neural network, *Int. J. Interact. Des. Manuf.* (2023). <https://doi.org/10.1007/s12008-022-01186-4>.
19. A. Patel, **M. Taufik**, Extrusion-Based Technology in Additive Manufacturing: A Comprehensive Review, *Arab. J. Sci. Eng.* (2022) 1–34. <https://doi.org/10.1007/s13369-022-07539-1>.
20. M.A. Alam, Krishnanand, A. Patel, R. Purohit, **M. Taufik**, Thermal analysis for improvement of mechanical properties in fused filament fabricated parts, *Int. J. Interact. Des. Manuf.* (2022).
21. Patel, A., **Taufik, M.**, Advances in nanocomposite material for Fused Filament Fabrication, *Polymer-Plastics Technology and Materials*, 1-4, 2022
22. Gupta, A.K., **Taufik**, Improvement of part strength prediction modelling by artificial neural networks for filament and pellet based additively manufactured parts, M., *Australian Journal of Mechanical Engineering*, 1-18, 2022
23. **Taufik Mohammad** & Jain Prashant, On the achieving uniform finishing allowance through identifying shape deviation for additive manufacturing, *Australian Journal of Mechanical Engineering (Taylor & Francis)*, In Press, February 2021, Pages 1-19
24. **Taufik Mohammad** & Jain Prashant, thermally assisted finishing of fused deposition modelling build part using a novel CNC tool, *Journal of Manufacturing Processes (Elsevier, IF: 4.086)*, Volume 59, November 2020, Pages 266-278
25. **Taufik Mohammad** & Jain Prashant, Part surface quality improvement studies in fused deposition modelling process: a review, *Australian Journal of Mechanical Engineering (Taylor & Francis)*, In Press, February 2020, Pages 1-26
26. **Taufik, M.** and Jain, P.K., 2016. CNC assisted selective melting for improved surface finish of FDM parts. *Virtual and Physical Prototyping*, Vol. 11(4), pp. 319-341
27. **Taufik, M.** and Jain, P.K., 2017. Laser assisted finishing process for improved surface finish of fused deposition modelled parts. *Journal of Manufacturing Processes*, Vol. 30, pp. 161-177
28. **Taufik, M.** and Jain, P.K., 2016. A study of build edge profile for prediction of surface roughness in fused deposition modelling. *Journal of Manufacturing Science and Engineering*, 138(6), p.061002.
29. **Taufik, M.** and Jain, P.K., 2017. Characterization, modeling and simulation of fused deposition modelling fabricated part surfaces. *Surface Topography: Metrology and Properties*, 5, pp. 1-20
30. **Taufik, M.** and Jain, P.K., 2013. Role of build orientation in layered manufacturing: a review. *International Journal of Manufacturing Technology and Management*, 27(1-3), pp.47-73
31. **Taufik, M.** and Jain, P.K., 2013. Surface roughness improvement using volumetric error control through adaptive slicing. *International Journal of Rapid Manufacturing*, 6(4), pp. 279–302
32. Singh, S., **Taufik, M.** and Jain, P.K., 2014. Development of extruder head for fused deposition process. *Journal of Engineering, Science & Management Education*, 7(1), pp.1-5

International Conferences

1. Nizam, Maruf, Rajesh Purohit, and **M. Taufik**, Prediction and Optimization of Surface Roughness in FDM-Printed TPU Prosthetics Using ANN Modeling International Conference on Advanced Materials for Sustainable Future (ICAMSF-2025) at Chitkara University, Rajpura, Punjab, India, 28th-29th March 2025.
2. K. K. Burman, S. Singh, **M. Taufik**, 3D Printed Prosthetic Arm - A Review, 1st international conference on New Product Development and Smart Manufacturing (NPDSM 2024), as an Organizing Secretary at Maulana Azad National Institute of Technology, Bhopal – 462003, 19th-20th December 2024.
3. B. Akash, A. Khade, A. Mishra, **M. Taufik**, Literature Review of the Development and Implementation of Advanced Prosthetic Arm Systems, 1st international conference on New Product Development and Smart Manufacturing (NPDSM 2024), as an Organizing Secretary at Maulana Azad National Institute of Technology, Bhopal – 462003, 19th-20th December 2024.
4. H. Shankar, **M. Taufik**, The Influence Of 3d Printing In The Classification And Innovative Mechanisms Of Prosthetic Arm, 1st international conference on New Product Development and Smart Manufacturing (NPDSM 2024), as an Organizing Secretary at Maulana Azad National Institute of Technology, Bhopal – 462003, 19th-20th December 2024.
5. R. K. Tiwari, G. Padma, P. Burbure, **M. Taufik**, Advancements in Prosthetic Hand Technology: A Review on 3D Printing and IoT Integration, 1st international conference on New Product Development and Smart Manufacturing (NPDSM 2024), as an Organizing Secretary at Maulana Azad National Institute of Technology, Bhopal – 462003, 19th-20th December 2024.
6. J. Sharma, P. Buwade, S. Pandey, **M. Taufik**, Paradigmatic Shift in Prosthesis Using 3D Printing: A Review, 1st international conference on New Product Development and Smart Manufacturing (NPDSM 2024), as an Organizing Secretary at Maulana Azad National Institute of Technology, Bhopal – 462003, 19th-20th December 2024.
7. S. Vishwakarma, C. S. Patel, V. B. Semwal, D. Kumar, **M. Taufik**, Manipulator Robot Development and Analysis of Motion planning libraries through ROS2 and MoveIt2, 3rd International Conference on Advances in Materials and Manufacturing Technology ICAMMT- 2024, as a coordinator at Maulana Azad National Institute of Technology, Bhopal – 462003, 17-20th Dec. 2024.
8. Nizam, Maruf, Rajesh Purohit, and Mohammad Taufik. "Extrusion based additive manufacturing of medicines." AIP Conference Proceedings. Vol. 3007. No. 1. AIP Publishing, 2024.
9. S. Mohanya, P. Pandey, **M. Taufik**, Evaluation of Mathematical Models for Surface Roughness Prediction of Digital Light Processing 3D Printer Using Literature Survey, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.
10. M. A. Alam, **M. Taufik**, Impact of Neck Growth on the Dimensional Accuracy of Fused Filament Fabrication Parts, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.

11. M. A. Alam, **M. Taufik**, Thermal Analysis for Enhancement of Mechanical Characteristics in Fused Filament Fabricated Parts, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.
12. M. A. Alam, **M. Taufik**, Role of neck formation on surface roughness of Fuse filament fabrication parts, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.
13. M. A. Alam, **M. Taufik**, Effect of neck growth on the strength of fused filament fabrication parts, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.
14. A. Patel, **M. Taufik**, A Study on Design and Development of Prosthetics by Fused Deposition Modelling, International Conference on Materials for Emerging Technologies-2021 (ICMET-21), February 2022.
15. A. K. Gupta, **M. Taufik**, Fabrication of Functionally Graded materials: A review, 2nd International Conference on Industrial and Manufacturing Systems, November 2021.
16. Krishnanand, **M. Taufik**, Development of a Pellet and Filament Form Integrated Multi-Material Additive Manufacturing Co-Extruder, in: Vol. 2A Adv. Manuf., American Society of Mechanical Engineers, 2021. <https://doi.org/10.1115/IMECE2021-71044>.
17. Krishnanand, **M. Taufik**, Design and Development of Pellets/Granules Extrusion System for Additive Manufacturing, in: ASME Int. Mech. Eng. Congr. Expo. Proc., American Society of Mechanical Engineers (ASME), 2021. <https://doi.org/10.1115/IMECE2021-71083>.
18. A. Patel, **M. Taufik**, Stage dependent strengthening of fused filament fabricated components, Mater. Today Proc. (2021). <https://doi.org/10.1016/j.matpr.2021.09.231>.
19. A.K. Gupta, Krishnanand, **M. Taufik**, The effect of process parameters in material extrusion processes on the part surface quality: A review, Mater. Today Proc. (2021). <https://doi.org/10.1016/j.matpr.2021.08.110>.
20. **M. Taufik**, P. Pandey, A Review on PolyJet 3D Printing Process and its Applications, 2nd International Congress on Advances in Mechanical and Systems Engineering (CAMSE)- 2021, July 2021.
21. A. K. Gupta and **M. Taufik**, "Effect of Process Variables on Performances Measured in Filament and Pellet based Extrusion Process," Material today's: Proceedings, In Press, June 2021, Pages 01-08
22. Krishnanand, Soni Shivam, Ankit Nayak & **Taufik Mohammad**, Development of graphics user interface (GUI) for process planning in extrusion based additive manufacturing, Material today's: Proceedings, In Press, March 2021, Pages 01-09
23. Krishnanand, Nayak Ankit, Soni Shivam and **Taufik Mohammad**, Tool Path Generation for Layer Specific Infill Density in Fused Filament Fabrication (FFF), In the proceedings of International Conference on Evolution in Manufacturing (ICEM - 2020), December 10-12, 2020, MNIT Jaipur, Rajasthan, India.
24. Krishnanand, Nayak Ankit, Soni Shivam and **Taufik Mohammad**, Generation of Tool Path in Fused Filament Fabrication, In the proceedings of International Conference on Evolution in Manufacturing (ICEM - 2020), December 10-12, 2020, MNIT Jaipur, Rajasthan, India.
25. Krishnanand, Soni Shivam & **Taufik Mohammad**, Design and assembly of fused filament fabrication (FFF) 3D printers, Material today's: Proceedings, In Press, November 2020, Pages 01-09

26. Francis V., Ukey P., Nayak, A., **Taufik, M.**, Jain, P.K., Mankar S.H.M. and Srivastava, S.S., 2019. Influence of 3D printing technology on biomedical applications: A study on surgical planning, procedures and training. In the proceedings of International Conference on Functional Materials, Manufacturing and Performances (ICFMMP-2019). September 12-13, 2019, Lovely Professional University (LPU), Phagwara, Punjab, INDIA.
27. **Taufik, M.** and Jain, P.K., 2018. Surface finish improvement of FDM based direct digital manufacturing parts by CO2 laser operation. In the proceedings of IEEE 2018 International Conference on New Trends in Engineering and Technology (ICNTET). September 07-08, 2018, Tiruvallur, Chennai, INDIA.
28. **Taufik, M.** and Jain, P.K., 2017. On the Study of Effect of Coupled Parameters of Fused Deposition Modelling and CO2 Laser Operation for Improved Surface Finish. In the proceedings of 14th International Conference on CAD - CAD'17. August 10-12, 2017, Okayama, Japan.
29. **Taufik, M.** and Jain, P.K., 2016. Estimation and simulation of shape deviation for additive manufacturing prototypes. In the proceedings of ASME 2016 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2016). August 21-24, 2016, Charlotte, North Carolina, USA.
30. **Taufik, M.** and Jain, P.K., 2016. Computer aided visualization tool for part quality analysis of additive manufacturing process. In the proceedings of ASME 2016 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2016). August 21-24, 2016, Charlotte. North Carolina, USA.
31. **Taufik, M.** and Jain, P.K., 2016. Development and analysis of accurate and adaptive FDM post finishing approach. 6th International Conference on Additive Manufacturing Technologies - AM 2016. October 6-7, 2016, Bangalore, INDIA.
32. **Taufik, M.** and Jain, P.K., 2016. Additive Manufacturing: Current Scenario. International conference on advanced production and industrial engineering, ICAPIE 2016. December 9-10, 2016, New Delhi, INDIA.
33. **Taufik, M.** and Jain, P.K., 2014. Volumetric error control in layered manufacturing. In the proceedings of ASME 2014 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE 2014). August 17-20, 2014, Buffalo, New York, USA.
34. **Taufik, M.** and Jain, P.K., 2012. Orientation techniques in layered manufacturing: a review. In proceedings of International Conference on Innovations in Design and Manufacturing, December 5-7, 2012, PDPM IITDMJ Jabalpur, INDIA.
35. Agrawal, A., Armo, M., Kumar, D., Singh, S., Krishnanand, **Taufik, M.**, "Development of Twin Fin Extension Liquefier Design for FFF 3D," Recent Advances in Manufacturing Processes and Systems pp 329–338, doi: 10.1007/978-981-16-7787-8_24
36. Krishnanand and **M. Taufik**, "Fused Filament Fabrication (FFF) Based 3D Printer and Its Design: A Review," Lecture Notes in Mechanical Engineering. pp. 497–505, 2021, doi: 10.1007/978-981-15-9853-1_41.
37. Krishnanand, Singh Varanjot, Mittal Vatsal, Branwal Amar Kumar and **Taufik Mohammad**, Extruder Design in Pellets Operated 3D Printers: a

	<p>review, In the proceedings of International Conference on Industrial and Manufacturing Systems (CIMS-2020), October 09-11, 2020, NIT Jalandhar, Punjab, India.</p> <p>38. Krishnanand, Mittal Vatsal, Singh Varanjot, Branwal Amar Kumar and Taufik Mohammad, Features and Functions of Filament operated 3D printer Nozzles: a review, In the proceedings of International Conference on Industrial and Manufacturing Systems (CIMS-2020), October 09-11, 2020, NIT Jalandhar, Punjab, India.</p> <p>39. Taufik, M. and Jain, P.K., 2018 “Development and Analysis of Accurate and Adaptive FDM Post Finishing Approach”. 3D Printing and Additive Manufacturing Technologies, Springer Nature Singapore Pte Ltd. pages. XIV, 311, DOI: 10.1007/978-981-13-0305-0, eBook ISBN: 978-981-13-0305-0, Hardcover ISBN: 978-981-13-0304-3</p> <p>National Conferences</p> <ol style="list-style-type: none"> 1. Abhishek Patel, Krishnanand and Taufik Mohammad, Design and Analysis Studies in Pallet Extrusion Additive Manufacturing Processes, In 2nd Innovative Product Design and Intelligent Manufacturing Systems: National Conference (IPDIMS 2020), 12-13 February 2021, NIT Rourkela, Odisha, India. 2. Taufik, M. and Jain, P.K., 2014. Surface finish of PC-ABS parts fabricated by fused deposition modelling. In the proceedings of the national Conference on Futuristics in Mechanical Engineering (FME). March 8-9, 2014. MMMTU, Gorakhpur, INDIA.
<p>Patents</p>	<p>Granted</p> <ul style="list-style-type: none"> • Automatic Filament Coating Apparatus for 3D Printing, Application No. 438547-001, Patent Filed Date 26/11/2024, Controller General of Patents, Designs and Trade Marks, The Patent Office, Government of India. • Filament and Pellet Integrated Co-extruder for Additive Manufacturing, Controller General of Patents, Designs and Trade Marks, The Patent Office, Government of India -2023 <p>Published</p> <ul style="list-style-type: none"> • Pellet Assisted Semi - Vertical Extruding System for Filament Manufacturing, Application No. 202421072647, Patent Filed Date 25/09/2024, Patent Publication Date (U/S 11A) 08/11/2024, Controller General of Patents, Designs and Trade Marks, The Patent Office, Government of India. • Filament and Pellets/Granules Integrated Co-Extruder for Additive Manufacturing, Controller General of Patents, Designs and Trade Marks, The Patent Office, Government of India-2023
<p>Members of professional bodies</p>	<p>American Society of Mechanical Engineers (ASME), Membership Number # 000102002445</p>
<p>Achievements/ Awards</p>	<ul style="list-style-type: none"> • Outstanding Reviewer in 2024 for the Journal of Materials Engineering and Performance, Springer (ASM International). • Most Distinguished Paper Award: Design and Analysis Studies in Pallet Extrusion Additive Manufacturing Processes (2nd Innovative Product Design and Intelligent Manufacturing Systems: National Conference (IPDIMS 2020), held at National Institute of Technology, Rourkela, Odisha 769001)

	<ul style="list-style-type: none"> • Research paper “Extruder Design in Pellets Operated 3D Printers: A Review” has been awarded as the “Best Paper” in International Conference on Industrial and Manufacturing Systems (CIMS-2020), October 09-11, 2020, NIT Jalandhar, Punjab, India. • Research Paper titled: “Characterization, modeling and simulation of fused deposition modelling fabricated part surfaces” has been listed in the “Highlights of 2017 from Surface Topography: Metrology and Properties, IOP Science Journal” (http://iopscience.iop.org/journal/2051-672X/page/Highlights-of-2017) • Research paper “Accurate and Adaptive FDM Post Finishing Approach” has been awarded as the “Best Technical Paper” in 6th International Conference on Additive Manufacturing Technologies - AM 2016 (A Highly Reputed Conference in the Area of Additive Manufacturing), October 7-8, 2016, Bengaluru, India. • Worked on the Department of Science & Technology (DST) funded project [Grant Number # SB/S3/MMER/0043/2013] as a Senior Research Fellow (SRF) • Obtained MHRD fellowship to pursue Doctorate at PDPM IITDM Jabalpur
Number of P.G. Projects guided	<ul style="list-style-type: none"> • <i>Ph.D.</i> – 05 (Ongoing) • <i>M.Tech</i> – 02 (Ongoing) and 7(Completed)
Project/ Consultancy undertaken	<p>Ongoing – 01</p> <ul style="list-style-type: none"> • <i>Co-Principal Investigator</i>, Development of a UV-assisted 3D Printing System for PCB Manufacturing sponsored by Indian Space Research Organization (ISRO) under Space Technology Incubation Centre (S-TIC), Space Applications Centre (SAC), Ahmedabad (Sanctioned amount: Rs. 18,88,500/-) <p>Completed – 04</p> <ul style="list-style-type: none"> • <i>Principal Investigator</i>, Development of a Pellet and Filament Form Integrated Multi-Material Co-Extruder System for Improved Additive Manufacturing Process <i>sponsored by Science and Engineering Research Board (SERB) of DST under Start-up Research Grant (SRG) scheme</i> (Sanctioned amount: Rs. 17,63,650/-) • <i>Principal Investigator</i>, Development of Computational and Experimental Strategies to Improve Part Surface Quality in Entry Level Fused Filament Fabrication (FFF) Process <i>sponsored by MANIT Bhopal under seed money grant scheme</i> (Sanctioned amount: Rs. 5,00,000/-) • <i>Principal Investigator</i>, Development of 3D Printed arm or elbow-operated water tap handles to make the water tap handles safer in common washrooms • <i>Co-Principal Investigator</i>, Fabrication of low-cost manual and electric ventilator machine
Administrative work done	<p>Institutional level</p> <ul style="list-style-type: none"> • Member, Document verification for faculty recruitment, dated 24/08/2025 • Professor In charge, Institute Data, Dated 06/03/2025 • Planning And Organising Teams for Techno-Search 25, Dated 14/02/2025 • Co-Coordinator (ME) NIRF 2025. • Duty of usher in 21st Convocation scheduled on 7th Dec 24.

- Co-Cordinater, NIRF 2024, Dated 08/11/2024
- Coordination team for venue/artist/ general arrangement, maffick 2024, dated 04/10/2024
- Coordinator, maffick -2024, dated 01/10/2024
- Member, Document verification for faculty recruitment, dated 27/09/2024
- Assistant Warden, 29/04/2020 to 03/06/2024.
- Member, Committee to plan annual rate contract, Techno-search/maffick, dated 06/09/2024
- Member, Stock verification committee, 20/06/23 to 05/07/23
- Member, Yuva Sangam Phase II Progamme, 13/05/23 to 19/05/23
- Chairman, selection committee of youths for Yuva Sangam Phase II Progamme, 13/05/23 to 19/05/23
- Technical Expert for purchasing in SDIRF Disaster Relief and Rescue Equipment Purchase Process, , 28/04/23 to till date
- Member, Core committee for Yuva Sangam Phase II 2023, 10/04/23 to 15/05/23
- Member, Discipline committee for Maffick & techno search 2023, 04/03/23 to 06/03/23
- Member, Discipline committee for techno search 2022, 08/10/22 to 09/10/22
- Member, Stock verification committee, 30/07/21 to 13/08/21
- Member, Institute Furniture requirement committee, 08/07/21 to till date
- Member, Research scholar day committee (2021), 07/01/21 to 09/01/21
- Member, (Institute 16th convocation committee), 01/10/19 to 09/11/19
- Member, student orientation program (2019), 24/07/19 to 01/08/19
- Member, Anti-Ragging, 19/07/19 to 23/03/23
- Member, Stock verification committee, 19/07/19 to 09/08/19
- Member, (Temporary faculty Recruitment), 25/06/19 to 03/07/19
- Faculty coordinator (Kodachrome, Maffick 2019), 29/03/19 to 31/03/19
- Member, Inventory inspection report (Civil Work)

Department level

- Member: Bajaj Engineering Skills Training (BEST)-2025
- Member: Departmental NBA SAR Preparation Committee -2025
- Committee Member: Report Preparation for the Audit of the UG Program, 12/02/25
- Member: Department ambience committee, dated 07/01/2025
- Course Co-ordinator: M.Tech (Automation & Robotics Course), Feb 24 to Till Date.
- Course Coordinator, M.Tech (Smart Manufacturing), 25/03/22 to 09/02/2024.
- Coordinator: Additive Manufacturing Research Lab (14/07/23 to 18/12/24).
- Coordinator: Advanced machining & Additive Manufacturing (19/12/24 to Till Date).
- Coordinator: Annual Report/Faculty data management-2024
- Convener, Pre-Bid meeting committee for 3 Axis Hybrid Additive Subtractive Metal Machine, Dated 05/02/2024.
- Member: committee for conducting PhD entrance examination-2024.
- Member: committee for the interview of JRF in SERB project-2024.
- Member: Fresher's Day celebration-2024.
- Member, Purchase committee for robotic arm, 13/09/22 to 30/07/23
- Member, NBA visit coordination committee, 13/01/23 to 15/01/23
- Convener, interview panel for PhD candidate in Smart Manufacturing, 23/11/22 to

24/11/22

- Lab-Incharge, Smart Manufacturing System Lab, 08/07/22 to till date
- Coordinator, DRPC, M.Tech (SM), 01/02/23 to to 09/02/2024.
- Member, NIRF information collection committee, 06/06/22 to till date
- Member, First Year Orientation program, 10/11/22 to 14/11/22
- Coordinator, Audit of PG program, 10/11/22 to 14/11/22
- TPTC, CEPDSM, MANIT Bhopal, 02/05/2022 to till date
- NBA information collection (Coordinator), 17/03/22 to 30/01/23
- In Charge, Additive Manufacturing Research Lab, MANIT Bhopal, 14/07/2022 to Till Date
- NBA accreditation work (Co-Coordinator), 06/03/20 to 16/03/21
- ME Student activities (Coordinator), 11/09/19 to 16/03/21
- Member, Monitoring duty of UG & PG classes, 16/07/19 to 15/11/19
- Attendance compilation committee (Co-Coordinator), 24/04/19 to 16/03/21
- Member, Feedback Committee

Others

- Served as an External Expert for Ph.D. examinations at government universities.
- Served as Paper Setter for examinations conducted by government & private agencies.
- CS for Lok Shabha Election 2024.
- PO for Lok Shabha Election 2024.
- Technical Expert for purchasing in SDIRF Disaster Relief and Rescue Equipment Purchase Process, Bhopal.
- PO for Vidhan Shabha Election 2023.
- MO for the 2019 Election.

Any other information

Text/Reference/Edited Books/Book Chapters:

- Editor, Abstract Book ICAMMT, 3rd International Conference on Advances in Materials and Manufacturing Technology ICAMMT- 2024, as a coordinator at Maulana Azad National Institute of Technology, Bhopal – 462003, 17-20th Dec. 2024.
- M. Taufik, V. Francis, A. Nayak, Additive Manufacturing in Biomedical Applications Process, Modelling, and Optimization, in: Biomed. Implant. Mater. Des. Manuf., CRC Press, 2024: pp. 150–161. <https://doi.org/10.1201/9781003375098-9>.
- Editor, Recent Advances in Manufacturing and Design, Walnut publication, ISBN No. 9781957302669, February 2023

Development of Course Structure / Syllabus /Lab Manual

B. Tech

- Prepared the syllabus for the subject “Micro-Electromechanical Systems (MEMS)” for the B.Tech (Mechanical Engineering) program at MANIT, Bhopal (2025).
- Prepared a technical guidance manual for the Manufacturing Techniques–II Laboratory at MANIT, Bhopal (2024).
- Prepared the syllabus for the subject “Additive Manufacturing Technologies” for the B.Tech (Mechanical Engineering) program at MANIT, Bhopal (2020).

- Prepared the syllabus for the subject “Manufacturing Processes–I” for the B.Tech (Mechanical Engineering) program at MANIT, Bhopal (2020).
- Prepared the syllabus for the subject “CAD/CAM” for the B.Tech (Mechanical Engineering) program at MANIT, Bhopal (2020).

M. Tech

- Prepared the syllabus for the subject “Computer-Aided Design in Smart Manufacturing” for the M.Tech (Smart Manufacturing) program at MANIT, Bhopal (2021).
- Prepared the syllabus for the subject “Additive Manufacturing” for the M.Tech (Smart Manufacturing) program at MANIT, Bhopal (2021).
- Prepared the syllabus for the subject “Reverse Engineering and Rapid Prototyping” for the M.Tech (Smart Manufacturing) program at MANIT, Bhopal (2021).
- Prepared the syllabus for the subject “CNC Technology and Programming” for the M.Tech (Smart Manufacturing) program at MANIT, Bhopal (2021).
- Prepared the syllabus for the subject “Additive Manufacturing Technology” for the M.Tech (Advanced Material Technology) program at MANIT, Bhopal (2020).
- Prepared the syllabus for the subject “CAD/CAM” for the M.Tech (Industrial Design) program at MANIT, Bhopal (2020).

Invited Lectures/Talks/Keynotes:

- Delivered an expert talk on Parametric modelling: Advanced Design Strategies for complex 3D Printing organized by Department of Mechanical Engineering, **CIST Bhopal**, India, 10,11 & 13 September 2025.
- Delivered expert talk in National Science Day 2025 Organized by IES University Bhopal on 27-28 Feb 2025
- Invitation as keynote speaker for "Annual International Conference on Recent Advances in Engineering Technology, Healthcare & Management" on January 11, 2025 at **Vidhyapeeth Group of Institutes**, Bhopal, MP, India
- Delivered expert session on “Post Processing Methods for Additive Manufacturing (AM)”, in one-week AICTE Training and Learning (ATAL) Academy Program on “Innovations, Designing and Manufacturing in Healthcare Industry” on 28/12/2024 at **oriental institute of science and technology**, Bhopal.
- Delivered expert session on “Design for Additive Manufacturing (AM)”, in one-week AICTE Training and Learning (ATAL) Academy Program on “Innovations, Designing and Manufacturing in Healthcare Industry” on 25/12/2024 at **oriental institute of science and technology**, Bhopal.
- Contributed as Resource Person in AICTE Training and Learning (ATAL) Academy Faculty Development Program on 3D Printing for Industrial & Biomedical Healthcare Applications with hands on MIMICS Software at **G H Rasoni College of Engineering**, Nagpur from 02/12/2024 to 07/12/2024.
- Delivered an expert talk on smart manufacturing practices for industry 4.0: Potential and Challenges (SMPI4.0-2024) organized by Department of Mechanical Engineering, **NIT Kurukshetra**, India, 01-05 April 2024.
- Delivered an expert talk on Design for Additive Manufacturing organized by oriental institute of science and Technology, Bhopal, Madhya Pradesh, India, 26th December 2023.
- Delivered web seminar on “Design for Additive Manufacturing (DfAM)”, during

one-week STTP on “Exploring the Potential and Benefits of 3D printing in Medical and Industrial Applications”, at Department of Mechanical Engineering, G H Raisoni College of Engineering Nagpur, 25 August 2023

- Delivered expert lecture on “Additive Manufacturing (AM)”, at the Department of Mechanical Engineering, **IES Collage Technology, Bhopal**, 29 May 2023
- Delivered expert lecture on “Design for Additive Manufacturing (DfAM)”, at the Department of Mechanical Engineering, **G. H. Raisoni Institute of Engineering and Business Management, Jalgaon, Maharashtra**, 15 October 2022
- Delivered expert talk on “Solving Mathematical Problems using MATLAB Symbolic Math”, during Two-week Electronics and ICT Academy sponsored online Faculty Development Program on “MATLAB Programming” at Mechanical Engineering Discipline, **PDPM IIITDM Jabalpur**, Jabalpur, August 22-September 02, 2022
- Delivered expert talk on “Essentials of Programming for Innovative Post processing techniques in AM”, during Two-week Electronics and ICT Academy sponsored online Faculty Development Program on “Additive Manufacturing and 3D Printing (AM & 3DP)” at Mechanical Engineering Discipline, **PDPM IIITDM Jabalpur**, Jabalpur, July 18-29, 2022
- Delivered lectures during five days faculty development programme on “3D Printing & Design” organised by **Dr. B. C. Roy Engineering College, Durgapur**, 17/08/2021 to 21/08/2021
- Delivered lectures during ATAL sponsored five days faculty development programme on “Research and Innovate with 3D Printing” organised by Department of Mechanical Engineering, **Government College of Technology, Coimbatore**, 02/08/2021 to 06/08/2021
- Contributed as Resource Person during one week in AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "Numerical simulation and soft computing techniques in advanced manufacturing processes at **Lakshmi Narain College of Technology (LNCT), Bhopal**, 05/07/2021 to 06/08/2021.
- Delivered expert lecture on “Design for Additive Manufacturing (DEAM)”, during three-day National Workshop on Additive Manufacturing (NWAM-2021) being organized by the Department of Mechanical Engineering, **Jaypee University of Engineering and Technology, Guna**, MP during April 15 - 17, 2021.
- Delivered expert talk on “Rapid Prototyping an Approach to Product Development”, in On-Line Faculty Development Programme on “Industrial Engineering Techniques” organized by department of Mechanical Engineering, under TEQIP III, **MANIT Bhopal**, March 15, 2021
- Delivered web seminar on “Design for Additive Manufacturing: FEM”, during Future Skill Training Workshop on “3D printing and Design”, at Department of Metallurgy & Materials Science, **College of Engineering, Pune**, 8th March 2021
- Delivered expert talk on “Build Your Own 3D Printer”, during online faculty development program (e-FDP) on “3D Printing and Design with Interdisciplinary Applications (3DPDIA-20)”, at **NIT Jalandhar, Punjab**, December 14 - 18, 2020
- Delivered expert talk on “Design for 3D Printing”, during online faculty development program (e-FDP) on “3D Printing and Design with Interdisciplinary Applications (3DPDIA-20)”, at **NIT Jalandhar, Punjab**, December 14 - 18, 2020
- Delivered web seminar on “Additive Manufacturing and its Interdisciplinary

Applications”, during one-week AICTE sponsored STTP on “Current Biomedical Applications of 3D Printing & Additive Manufacturing”, at Department of Mechanical Engineering, **G H Rasoni College of Engineering Nagpur**, November 02-07, 2020

- *Session Chair* in International Conference on Industrial and Manufacturing Systems (CIMS-2020) organized by Department of Industrial and Production Engineering, **Dr. B. R. Ambedkar National Institute of Technology, Jalandhar**, 9/10/2020 to 11/10/2020
- Delivered web seminar on “Importance of modeling & simulation in 3D printing”, during one-week online workshop on “Modelling & Simulation in Design and Manufacturing (MSDM 2020)”, at Department of Mechanical Engineering, **MANIT Bhopal**, October 05-09, 2020
- Delivered expert talk on “Additive Manufacturing with Industrial Applications”, during one-week TEQIP sponsored Five-day online short-term course on Advanced Manufacturing Processes & Applications (AMPA-2020, at **MNIT Jaipur, Rajasthan**, 24th August to 28th August 2020
- Delivered expert talk on “Design for Additive Manufacturing”, during one-week TEQIP sponsored Online Short-Term Course (e-STC) on “Additive Manufacturing with Interdisciplinary Applications”, at **NIT Jalandhar, Punjab**, June 29-July 03, 2020
- Delivered web seminar on “Additive Manufacturing and its Interdisciplinary Applications”, during one-week Online FDP on “Emerging Trends in Engineering & Technology”, at Department of Mechanical Engineering, **G H Rasoni College of Engineering Nagpur**, June 15-20, 2020
- Delivered expert talk on “MATLAB software”, during one-week TEQIP sponsored Workshop on “Application of software for smart energy system”, at Energy Centre, **MANIT Bhopal**, January 20-24, 2020
- Delivered expert talk on “Basics and Applications of MATLAB”, during one-week TEQIP sponsored Workshop on “Application of MATLAB in Mechanical Engineering Analysis”, at Department of Mechanical Engineering, **MANIT Bhopal**, December 23-27, 2019
- Delivered expert talk on “Design for 3D Printing: Volumetric Error”, during one week ATAL-AICTE sponsored FDP on “3D Printing & Design with Interdisciplinary Applications (3DPDIA)” at Department of Mechanical Engineering, **MANIT Bhopal**, November 04-08, 2019
- Delivered expert talk on “Design for 3D Printing: Shape Deviation”, during one week ATAL-AICTE sponsored FDP on “3D Printing & Design with Interdisciplinary Applications (3DPDIA)” at Department of Mechanical Engineering, **MANIT Bhopal**, November 04-08, 2019
- Delivered guest lecture on “Design for Additive Manufacturing”, at Department of Mechanical Engineering, **Vellore Institute of Technology (VIT), Bhopal University**, October 11, 2019 Delivered expert talk on “Design for Additive Manufacturing”, during Two weeks AICTE sponsored Faculty Development Program on “3D printing for Industrial and Biomedical Applications”, at Department of Mechanical Engineering, **G H Rasoni College of Engineering, Nagpur**, June 03-15, 2019
- Delivered expert talk on “Genetic Algorithm and case Studies”, during Five Day AICTE- QIP sponsored short term course on “Programming and Algorithm

Development for Research Applications Using MATLAB (PAD-RAM)", at Mechanical Engineering Discipline, *PDPM IIITDM Jabalpur*, Jabalpur, March 06-10, 2019

FDP/Workshop/Conference Organised/Conducted

- Organized 3rd International Conference on Advances in Materials and Manufacturing Technology ICAMMT- 2024, as a coordinator at Maulana Azad National Institute of Technology, Bhopal – 462003, 17-20th Dec. 2024.
- Organized self-sponsored workshop on recent advances in robot technology (RART-2024) as a co-ordinator which was conducted by department of mechanical engineering, Maulana Azad National Institute of Technology, Bhopal during 8th to 12th July 2024.
- Organized one Week SERB sponsored KARYSALA on “3D Printing Applications in Industrial, and Medical Sectors” – (3DPAIMS-2023), MANIT Bhopal, July 03-09, 2023.
- Coordinator, One Day Training Program as Per Scientific Social Responsibility (SSR) Policy Under SERB-DST Funded Project on 11 December 2021.
- Organized one Week online workshop on “Modelling & Simulation in Design and Manufacturing (MSDM-2020)”, MANIT Bhopal, October 05-09, 2020.
- Organized one Week ATAL-AICTE sponsored FDP on “3D Printing & Design with Interdisciplinary Applications (3DPDIA)”, MANIT Bhopal, November 04-08, 2019.
- Conducted Hands-on experience-oriented skill development workshop for MITS students - Phase II on Basics and Applications of MATLAB, MITS Andhra Pradesh, July 02-07, 2018
- Conducted Hands-on experience-oriented skill development workshop for MITS students on Basics and Applications of MATLAB, MITS Andhra Pradesh, June 11-16, 2018
- Conducted technical workshop in the 13th Mechnance 2018 (A National Level Students’ Technical Symposium) on CNC Machines, MITS Andhra Pradesh, April 04, 2018
- Conducted lab sessions in the workshop on computer programming and GUI development in MATLAB under Electronics and ICT Academy, IIITDM Jabalpur, March 18-23, 2016
- Conducted lab sessions in the workshop Computational Methods and GUI Development for Scientists and Engineers under Electronics and ICT Academy, IIITDMJabalpur, October 28 – November 1, 2015
- Conducted lab sessions in the workshop on Applications of MATLAB for Engineering Computations, at PDPM IIITDM Jabalpur, December 01-05, 2014
- Conducted lab sessions in the workshop on Applications of MATLAB for Engineering Computations, at PDPM IIITDM Jabalpur, January 10-12, 2014
- Conducted lab sessions in the workshop on Applications of MATLAB for Engineering Computations, at PDPM IIITDM Jabalpur, August 30- September 01, 2013
- Conducted lab sessions in the Training Program on “CNC Programming Simulation and Operation” at PDPM IIITDM Jabalpur, July 01-12, 2013

Training, Summer/Winter Schools/ Short term Courses/Expo Attended/Participated:

- Certificate of Participation for the Course “Semiconductor Fabrication and Packaging Technology” Organized by EICT Academy at IIT Roorkee, MNIT Jaipur, NIT Patna, IIT Guwahati, And IIITDM Jabalpur From 20 Jan-31 Jan 2025.
- Completed the short term training programme "Outcome Based Education" conducted by the NITTTR Bhopal, India, December 09-20, 2019
- Participated in the training programme on "Instructional Design and Delivery System" conducted by MITS, Madanapalle with NITTTR Chennai, India, June 25-29, 2018
- Attended MATLAB EXPO 2018 at Hyderabad International Convention Centre, Hyderabad, India, April 24, 2018
- Participated in the Design Workshop (Dew 2016) held during December 12-14, 2016 at PDPM IIITDM Jabalpur, India
- Participated in the Workshop on “Applications of MATLAB for Engineering Computations” at PDPM IIITDM Jabalpur, April 20-21, 2013
- Attended Short-term course on “CNC Milling (FANUC)” at (IDTR), Jamshedpur from 18- 05-2011 to 31-05-2011
- Attended Vocational training on “CNC Machines” at Indo Danish Tool Room (IDTR), Jamshedpur (India) from 16-06-2008 to 22-07-2008

Citations:

- Google Scholar Citations: (<https://scholar.google.co.in/citations?user=pbyP2k0AAAAJ>)
- Scopus Citations: <https://www.scopus.com/authid/detail.uri?authorId=56695487500>

Reviewer of Journals/Conferences:

- Materials & Design - **Elsevier**
- Part E: Journal of Process Mechanical Engineering- **SAGE**
- European Polymer Journal- **Elsevier**
- Journal of Engineering Research - **Elsevier**
- Materials Research Express- **IOP**
- Journal of the Brazilian Society of Mechanical Sciences and Engineering – **Springer**
- Part B: Journal of Engineering Manufacture- **SAGE**
- Surface Topography: Metrology and Properties- **IOP**
- Optics and Lasers in Engineering - **Elsevier**
- Materials Today: Proceedings - **Elsevier**
- Journal of Materials Engineering and Performance– **Springer**
- Buildings– **MDPI**
- Sustainability– **MDPI**
- Applied Sciences– **MDPI**
- Applied System Innovation– **MDPI**
- Materials Characterization- **Elsevier**
- Suranaree Journal of Science and Technology- **Suranaree University of Technology**
- Journal of Harbin Institute of Technology-**Harbin Institute of Technology**
- MAPAN Journal of Metrology Society of India– **Springer**
- Journal of Computing and Information Science in Engineering- **ASME**
- Advanced Composite Materials- **Taylor & Francis**

	<ul style="list-style-type: none"> • Applied Science and Engineering Progress-King Mongkut’s University of Technology North Bangkok (KMUTNB) • Journal of Current Science and Technology-Rangsit University • Part H: Journal of Engineering in Medicine- SAGE • World Journal of Engineering-Emerald Insight • Advances in Technology Innovation-Taiwan Association of Engineering and Technology Innovation • International Journal of Biological Macromolecules- Elsevier • Journal of Engineering Design- Elsevier • Mechanics of Advanced Materials and Structures- Taylor & Francis • Computers & Graphics - Journal - Elsevier • Advances in Manufacturing– Springer • Australian Journal of Mechanical Engineering - Taylor & Francis • International Journal of Materials and Product Technology – Inderscience • International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - ASME • International Mechanical Engineering Congress and Exposition - ASME
Referees	<ul style="list-style-type: none"> • Dr. Prashant K. Jain (<i>PhD IIT Delhi</i>), Professor in Mechanical Engineering Discipline, PDPM Indian Institute of Information Technology, Design and Manufacturing Jabalpur, Dumna Airport Road, Jabalpur - 482005, MP, INDIA, E-mail: pkjain@iiitdmj.ac.in, Tel: +91-761- 279 4415 • Dr. S. C. Jayswal (<i>PhD IIT Kanpur</i>), Professor & HOD, Mechanical Engineering Department, M. M. M. University of Technology, Gorakhpur-273010, UP, INDIA, E-mail: scjay_gkp@yahoo.co.in, Tel: +91- 9235500569