

Dr. Rajeev Agrawal

Ph.D. (Industrial Engineering),
M.E. (Production), B.E. (Mechanical)
Professor,
Department of Mechanical Engineering,
Malaviya National Institute of Technology Jaipur
SCOPUS Citations = 1836
h-index= 20
Google Scholar Citations = 3187
h-index = 26
i10-index= 53

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Google Scholar: <https://scholar.google.com/citations?user=-OV-YAAAAAJ&hl=en&oi=ao>

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PROFESSIONAL SUMMARY

More than 26 years' research and teaching experience. UG & PG Both (More than 25 years of post-PG teaching experience). **Fellow of The Institution of Engineers (IEI)**, India. **Fellowship** for Outstanding contributions to the promotion of Industrial Engineering given by Indian Institute Industrial Engineering Year – 2025, Published more than 120 research publications in International Journals, Conferences, and Seminars.

EMPLOYMENT

Research and Teaching Experience	12 Feb 2026 – Present	Professor , Department of Mechanical Engineering, MNIT Jaipur, India
	28 June 2018 – 11 Feb 2026	Associate Professor, Department of Mechanical Engineering, MNIT Jaipur, India
	July 2010 – June 2018	Assistant Professor, Department of Production Engineering, Birla Institute of Technology-Mesra, India
	June 2007 – June 2010	Senior Lecturer, Department of Production Engineering, Birla Institute of Technology-Mesra, India
	Mar 2004 – May 2007	Lecturer, Department of Production Engineering, Birla Institute of Technology-Mesra, India
	Dec 1998 – Mar 2004	Lecturer, Department of Mechanical Engg. ,H.C.E.T., Jabalpur, India (Affiliated to R.G.T.U., Bhopal)
Education	2012	Doctor of Philosophy (Ph.D.), Birla Institute of Technology Mesra, India <i>“Advanced Planning and Scheduling problem in E-Manufacturing environment and its solution using Evolutionary Algorithm”</i>
	2001	M.E. (Production Engineering), MNNIT Allahabad
	1998	Bachelor of Engineering (B.E.), Mechanical Engineering, Govt. Engg. College, Jabalpur (GECJ)

Research Interests

Currently managing a Research project including engagement in Sustainable manufacturing, Sustainable Supply Chain, Reconfigurable manufacturing system (RMS), Manufacturing Automation, Application of soft computing/Metaheuristics/Computational Intelligence techniques on Industrial Engineering & Operations Management, Lean Six Sigma, Modeling & Simulation, Statistics and Data Analytics.

- **Joint Collaborative Research Work:** Research collaboration on joint research papers and funding proposals with renowned universities and researchers in India {IIT Delhi , CSIR-IIP , IIT(ISM) Dhanbad, IIM Mumbai, IIT BHU, XLRI , IIT Ropar, IIT Hyderabad, IIM Lucknow}, UK, USA, Australia , Brazil, Croatia, Turkey & Portugal
- **Research funding** from major funding agencies including ICSSR, SERB (DST), MSME, AICTE-ATAL, ADA :GOI under NPMASS, and IE(I).
- **Publications:** Demonstrating Research capabilities in terms of research papers published/presented (Including CIRP Annals, IEEE Explore Proceeding, Springer, SAGE, Taylor and Francis, Emerald and Science Direct, and Inderscience Publishers).
- **Published book chapters** on Industry 4.0, Smart Manufacturing Integration of Process Planning and Scheduling, Smart Actuators, Sustainable Manufacturing and Reconfigurable Assembly Systems etc. with renowned international publishers.
- **Co-Author of highly cited paper** in Procedia CIRP **“Developing A sustainability framework for Industry 4.0”** (Most cited publication in last 3 years)

- Co-Author of most cited review paper in International Journal of Sustainable Engineering “**Review on multi-criteria decision analysis in sustainable manufacturing decision making**” (Most cited publication in last 3 years)
- **Projects got accolades** from Home Guard and Civil Defense, Madhya Pradesh for “proposing the optimal locations for the emergency operation centers across Madhya Pradesh. “Facility Location and Product Flow Optimization, using Spatial and Network Analysis in GIS” at the MP Council of Science and Technology. Bhopal.
- **Implemented** “Warehouse Location Optimization for different Telecom Circles across India” in a leading Telecom Company. Led a project in “Supply chain network optimization” at a beverage company. projects included “Application of multi-threading to parallelize an industrial process control program based on the technique of Differential Evolution” in a leading Steel company.
- My project team proposed a “Model of a Fuzzy Automation System” for a Steel Wire Roll Mill. My work includes Process excellence in the IT sector in an emerging economic scenario & “Supply Chain Optimization using Linear Programming Model and GIS” to reduce the Overall Freight.

Patent: 02

"Smart IoT-based gas stove", Rajeev Agrawal, Reg.No. 202221053290 [Controller General of Patents, Designs Trade Marks, Govt. of India] Filed Dt.. 18-09-2022

Hybrid Functional Blocks-Based Pump-Free Self-Operated Lab-On-Chip Plasma Extractor", Reg.No. 202511012475 [Controller General of Patents, Designs Trade Marks, Govt. of India] Dt.17-02-2025

Research Output

(Ph.D.) Level-08 (Guided 05, Pursuing 03),

Postgraduate (M. Tech.) Level: Total- 33 (29 Awarded, 04 Pursuing)

Supervised over 24 Bachelor's project work, 02 Pursuing

1. Pragati Sinha on “Emerging technology in strengthening supply chain for promoting sustainable business models in India.”-2025
2. Anbesh Jamwal on “Industry 4.0 enables Sustainable Manufacturing Operations”- 2024
3. Akshay Patidar on “Development of Resilient Sustainable Supply Chain Model for Indian manufacturing industries” - 2024
4. Aviansh Kumar on “Modeling of Reconfigurable assembly line” - 2022
5. Satyajit Mahto on “A critical study and practical proposition for operations excellence in small and medium-scale enterprises” – 2021

Research Projects and Funding

1. Review of Indian Standards on quality improvement tools including Quality function deployment and Estimation. , Bureau of Indian Standards,New Delhi, Rs 5.06112 lakhs , 2026-
2. **Development of Artificial intelligence enabled sustainable health care waste management system** in India, ICSSR, Rs. 12,00,000, 2023-2025.
3. **Coordinator**, IA “Design Expertise for Manufacturing MSME sector”, MNIT Jaipur ; Ministry of Micro, Small and Medium Enterprises, Government of India, 20.60 lakhs, September 2020 till date.
4. **Exploration of Sustainable Manufacturing in Indian manufacturing industries** 3.95 lakhs, TEQIP-III (2019-2021).
5. **Development of Controller for Mitsubishi RM-501**, (Institute Sponsored Project) (2016-17).
6. **Developing optimal facility location strategies by leveraging the latest Geographic Information Systems (GIS) Technologies**, Seed money scheme, BIT, Mesra, (Institute Sponsored Project), (2015-16).
7. One of the **coordinators for “Establishment of National MEMS Design Centre”** sanctioned under NPMAS (National Programme on Micro and Smart systems) at Birla Institute of Technology, Mesra, (2009-2014), Rs. 11.16 lakhs
8. The Institution of Engineers (India) R&D student project under my supervision. Project Title: **“Development of Robotic Arm for MIG/TIG Welding”**. (2011-12)

9. “Realization of Self Organization and adaptive attributes in Design, Planning and Operations of Manufacturing system”(Institute sponsorship project) Birla Institute of Technology, Mesra, 2006-10

Relevant Consultancy Projects

1. The joint project on life cycle assessment (LCA) demonstrated ability to detail understanding of the carbon emission and environmental impact associated with leather products.Mayur Uniquoters Ltd. Jaipur, India. 2024-25,
 - a. GHG Monitoring ; Mayur Uniquoters Limited, 3.30 Lakhs,2025
 - b. GHG Monitoring ; Mayur Uniquoters Limited, 2.97 Lakhs,2024
 - c. Sustainability partner search CO2 and LCA; Mayur Uniquoters Limited, 2.95 Lakhs, 2022-23
2. Monotech Systems Limited “Life cycle assessment of 3D printed parts” 2019-2021
3. Support to SME industries of Jaipur , Ranchi. Carried and presently carrying following project of different Industries.2014-15,2024-25
 - a. Automation of MIG welding, Ginni Industries, Tatisilwai, Ranchi.
 - b. Automation of cylinder painting process, Ginni Industries, Tatisilwai, Ranchi.

Summary of Research & Publications

No. of Research Projects Completed and On Going	08	Citation index in Scopus/Web of Science	1836
No. of Consultancy and Industries Sponsored Projects	03	No. of Books Published with ISBN (including Conference Proceedings)	06
Reviewer of International Journals	11	Book Chapters published	14
No. of Journals Published in SCI, Scopus and SCIE index	53	No. of Editorial Appointments in Journals/Conferences (Editor, Reviewer & Member)	12
No. of conference/chapters published in Scopus and Web of Science	71	No. of Countries Visited for research activities	05
No. of Conference Presentation	15	No. Invited Speaker/ Resource person	55
Ph.D. Examiner/Evaluated	12	AICTE-ATAL FDP organised under PM GATISHAKTI	02
H-index: Bibliometrics of the pub. based on Scopus/WOs/ i10-index	26 50	No. of Conference/workshop/seminars Organized	47
Total number of Collaborative activities for research:	08	Total number of awards and recognition received	05
Number of functional MoUs with other universities/industries	01	Member of Professional Bodies	12
SERB DST Sponsored 1 month training cum skill Internship VRITIKA on “Data Analytics for Sustainability” under the Accelerate Vigyan scheme	01	SERB DST Sponsored High-End Workshop (Karyashala) on “Modelling and Optimization in Green Manufacturing”under the Accelerate Vigyan scheme	01

Few selected Relevant/Recent Publications

1. (2026) Assessing Enablers for Digital Trust for Supply Chain Digitalization-An Integrated Approach in the Indian Manufacturing Sector" , International Journal of Intelligent Enterprise (Inderscience)
2. (2025) Evaluating Barriers to Establish Digital Trust in Industry 4.0 for Supply Chain Resilience in the Indian Manufacturing Industry" ,**BenchCouncil Transactions on Benchmarks, Standards and Evaluations** (Science Direct) Volume :5(4) / 1-20 / 2025
DOI: <https://doi.org/10.1016/j.tbench.2025.100247>
3. (2025) "Strategic management of the dyadic buyer supplier relationship and supplier development practices with respect to industry 4.0: An empirical study" , Operations Management Research (Springer) <https://doi.org/10.1007/s12063-025-00554-z>
4. (2025) "A decision framework for SMEs to address sustainability issues with Industry 4.0 technologies" , Annals of Operations Research (Springer Nature) <https://doi.org/10.1007/s10479-025-06560-5>

5. (2025) Developing a maturity model for Industry 4.0 practices in manufacturing SMEs" , Operations Management Research. <https://doi.org/10.1007/s12063-025-00545-0>
6. (2025) Implementation of an Integrated Framework of Lean Manufacturing and Industry 4.0 toward Sustainability: A Case Study of the Indian Ceramic Industry" , Engineering Management Journal, (Taylor & Francis) <https://doi.org/10.1080/10429247.2024.2440248>
7. (2024) "AI enabled business decisions that enhance sustainability impact of an apparel and fashion supply chain" , Technology Analysis & Strategic Management (Taylor and Francis) <https://doi.org/10.1080/09537325.2024.2424428>
8. (2024) ,"A Review on Digital Transformation in Healthcare Waste Management: Applications, Research Trends, and Implications" , Waste Management & Research, The Journal for a Sustainable Circular Economy (SAGE Publications) <https://doi.org/10.1177/0734242X241285420>
9. (2024), "Strategies for Green Supply Chain for Agriculture Equipment Manufacturing Industries: Perspective of Blockchain- IoT Integrated Architecture" , International Journal of Mathematical, Engineering and Management Sciences (Ram Arti Publisher) Volume :9, 5 / 988-1018 <https://doi.org/10.33889/IJMEMS.2024.9.5.052>
10. (2024), Blockchain technology as an enabler for digital trust in supply chain: evolution, issues and opportunities" , International Journal of System Assurance Engineering and Management (Springer Nature) Volume :15 / 4183 - 4209 / 2024 <https://doi.org/10.1007/s13198-024-02471-z>
11. (2024) Technological integration of Lean Manufacturing with Industry 4.0 towards Lean Automation: Insights from the systematic review and further research directions" , Benchmarking: an International Journal (Emerald Publishing) <https://doi.org/10.1108/BIJ-05-2023-0316>
12. (2024) Role of industry 4.0 in augmenting durability of agri-food supply chains amidst pandemic: organisation flexibility as a moderator" , Operations Management Research (Springer Nature) Volume :000 // 2024 DOI: <https://doi.org/10.1007/s12063-023-00436-2>
13. (2024) "Unlocking Circular Economy through Digital Transformation: The Role of Enabling Factors in SMEs",International Journal of Global Business and Competitiveness (Springer) 2024 <https://doi.org/10.1007/s42943-024-00090-w>
14. (2023) Building Supply Chain Resilience in developing economies: A weighted Ishikawa diagram approach, Operations Management Research, 9.0, SSCI Indexed <https://doi.org/10.1007/s12063-023-00433-5>
15. (2023) Modelling barriers to adoption of digitalization in supply chain using FTOPSIS and its impact on sustainability TBL, Benchmarking: An International Journal, 5.431 ,ESCI, <https://doi.org/10.1108/BIJ-04-2023-0234>
16. (2023) Challenges and Opportunities for manufacturing SMEs in adopting Industry 4.0 technologies for achieving sustainability: Empirical evidence from an emerging economy, Operations Management Research,9.0 ,SSCI Indexed <https://doi.org/10.1007/s12063-023-00428-2>
17. (2023) An empirical investigation on the deployment of Operational excellence in SMEs , Benchmarking: An International Journal,5.6, ESCI Indexed <https://doi.org/10.1108/BIJ-05-2022-0297>
18. (2021) Machine learning applications for sustainable manufacturing: a bibliometric-based review for future research, Anbesh Jamwal, Rajeev Agrawal, Monica Sharma, Anil Kumar, Vikas Kumar, Jose Arturo Arturo Garza-Reyes, Journal of Enterprise Information Management, 5.396, SSCI Indexed <https://doi.org/10.1108/JEIM-09-2020-0361>
19. (2018) Optimal sequence planning for multi-model reconfigurable assembly systems ,Avinash Kumar, L.N. Pattanaik, Rajeev Agrawal, The International Journal of Advanced Manufacturing Technology,3.320,SCI Indexed <https://doi.org/10.1007/s00170-018-2826-8>
20. (2009) Multi-Agent System for Distributed Computer Aided Process Planning Problem: In E-Manufacturing Environment, Rajeev Agrawal, S. K. Shukla, S. Kumar, M.K Tiwari ,The International Journal of Advanced Manufacturing Technology,3.320,SCI Indexed <https://doi.org/10.1007/s00170-008-1844-3>

JOURNAL EDITORIAL POSITIONS:06

1. Editor-in-Chief: Industrial Engineering Journal(Official journal of Indian Intuition of Industrial Engineering), (Indexed in Indian Citation Index, ICI and UGC care list), ISSN 0970-2555
2. **Editorial Board member** for the International Journal of Business and Systems Research (IJBSR). IJBSR is an academically peer refereed journal that is published four printed issues per year and distributed by Inderscience Enterprise Ltd., Indexed by: Scopus, Q2. (2018- Till now)
3. **Editorial Board member:** International Journal for Manufacturing Technology & Research (ISSN No. 0973-028). (2018- Till now)
4. **Associate Editor: International Journal of Mathematical, Engineering and Management Sciences (IJMEMS)**, (ESCI, Scopus, Q3). (2021- Till now)
5. **Review Editor: Frontiers in Manufacturing Technology, (DOAJ).** (2022- Till now)
6. **Editorial Advisory Board, Quality and Operational Research (QOR) Newsletter.** (2021- Till now)

Guest Editorial Positions (Special Issues of Journals) :04

1. (2024) Managing Guest Editor for the special issue in International Journal of Mathematical, Engineering and Management Sciences (IJMEMS) on “Blockchain Technology for Sustainable Manufacturing based on Circular Economy” (Indexing –ESCI,Scopus, Q3)
2. (2022) Managing Guest Editor for the special issue in International Journal of Information Management Data Insights on “Use of AI algorithm information management related to Industry 4.0” by Elsevier (Scopus Indexed), Q1.
3. (2022) Managing Guest Editor for the special issue in Operations Management Research on “Role of operation management in Industry 4.0 for new business opportunities in manufacturing and service organisations” by Springer (Social Science Citation Indexed, Q1, Impact Factor: 9.00).
4. (2022) Managing Guest Editor for the special issue in Frontiers in Manufacturing Technology on “The Role of Production Systems and Supply Chains Toward Sustainable Development Goals” by Frontiers, (DOAJ).

Reviewer: Active Reviewer Number of high-ranked journals such as

Springer International Journal of Advanced Manufacturing Technology,

Elsevier Computers & Industrial Engineering (CAIE),

Taylor & Francis Group Production & Manufacturing Research (PMR)

Inderscience Publishers Int. J. of Six Sigma and Competitive Advantage (IJSSCE),
Int. J. of Business and Systems Research (IJBSR)

Emerald Publishing International Journal of Lean Six Sigma (IJLSS), Journal of Modeling in Management (JOM&M), Benchmarking: an International Journal (BIJ), Supply Chain Management: an International Journal (SCMIJ)

John Wiley & Sons Ltd. :Mathematical Problems in Engineering

ACADEMIC ESTEEM/PROFESSIONAL LEADERSHIP

Delivered invited lectures in various STC and FDP organized by DST, AICTE Training and Learning (ATAL) Academy- New Delhi, National Institute of Technology, Warangal, Raipur, Uttarakhand, Centre for Electronic Governance, Jaipur, Chhattisgarh Academy of Administration, IIT, Kanpur, IIT-BHU, NIT Raipur, Patna, Allahabad, Indian Railways Institute of Mechanical & Electrical Engineering, Jamalpur and several other institutes of International and national repute. Organized more than 20 International and National Conferences and seminars, and workshops

- Session Chair, 11th IFAC Conference on Manufacturing Modelling, Management and Control, MIM2025: Trondheim, Norway, 30 June - 3 July 2025, Norway
- Organized Special Session "Human Centric Production System in the era of Industry 5.0", The 51st International Conference on Computers and Industrial Engineering (CIE51), University of Adelaide (Australia), 9th -11th December 2024, Sydney, Australia

- Invited Session Chair on “Global Supply Chain and Logistics II” on the theme “Strategies to build more resilient supply chain”, 6th European Conference on Industrial Engineering & Operations Management, Lisbon, Portugal (2023).
- Organizer, Invited Session on “Reconfigurable Production System for Dynamic Manufacturing Environment” in 10th IFAC Conference on Manufacturing Modelling, Management and Control, Nantes, France (2022).
- (2021) Special Session IFIP APMS 2021 Industry 4.0 Technologies for Manufacturing Sustainability.
- Special Chair (EurOMA 2018): 5th International EurOMA Sustainable Operations and Supply Chains Forum, March 05-06, 2018, Kassel, Germany

Books/Editor Published:08

1. (2023) Rajeev Agrawal, J. Paulo Davim, MLR Varela, Monica Sharma “Industry 4.0 and Climate Change”, CRC Publisher. Lead Editor, ISBN: 9781032276311.<https://doi.org/10.1201/9781003293576>.
2. (2023) Rathish Chandra R. Gatti, Rajeev Agrawal, Felcy Jyothi Serrao, and Chandra Singh (eds.) Self-Powered Cyber Physical Systems, (1–40) © 2023 Scrivener Publishing LLC.
3. (2021) Rajeev Agrawal, Jinesh Kumar Jain, Vinod Singh Yadav, Vijaya Kumar Manupati, MLR Varela (eds) Recent Advances in Smart Manufacturing and Materials. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-3033-0_1, select proceedings of the International Conference on Evolution in Manufacturing (ICEM 2020), Jaipur (10th -12th Dec.2020).
4. (2021) Rajeev Agrawal, Jinesh Kumar Jain, Vinod Singh Yadav, Vijaya Kumar Manupati, MLR Varela (eds) Recent Advances in Industrial Production. Lecture Notes in Mechanical Engineering. Springer, Singapore. <https://doi.org/10.1007/978-981-16-5281-3>, select proceedings of the International Conference on Evolution in Manufacturing (ICEM 2020), Jaipur (10th -12th Dec.2020).
5. (2017) Editor, 32nd National Convention of Production Engineers & National Seminar on Theme:Improving Competitiveness in Manufacturing – “Make in India” to “Made in India” 27th -28th May, 2017, organized by The Institution of Engineers (India), Jharkhand State Centre Engineer Bhawan, Nepal House, Doranda, Ranchi (Jharkhand) in association with, Steel Authority of India Limited, Centre for Engineering & Technology at Jharkhand State Centre Engineer Bhawan, Nepal House, Doranda, Ranchi (Jharkhand) , ISBN: 9789386256874.
6. (2017) Editor, 32nd National Convention of Production Engineers & National Seminar on Theme: Improving Competitiveness in Manufacturing – “Make in India” to “Made in India”,27th -28th May, 2017, organized by The Institution of Engineers (India), Jharkhand State Centre Engineer Bhawan, Nepal House, Doranda, Ranchi (Jharkhand) in association with, Steel Authority of India Limited, Centre for Engineering & Technology at Jharkhand State Centre Engineer Bhawan, Nepal House, Doranda, Ranchi (Jharkhand) , ISBN:9789386256874
7. (2016) Lead Editor, Proceeding of ICEM: Technologies and Business Strategies for Global Competitiveness,The International Conference organized by IEI(I) JSC in association with Prod. Engg.Dept.,BIT,Mesra, Ranchi under the aegis of Production Engineering Division and In Collaboration With NHI ,China at the BIT,Mesra ,Ranchi during Nov. 12th – 13th, 2016, ISBN: 978-93-86256-11-9.
8. (2016)Member Editorial board, Annual Technical Volume of Production Engineering Division board, Theme: Futuristic Manufacturing for equitable development of India, Vol. 1,

Important Assignments & Significant Achievements

- **Vidwan Score: 9.7/10** (premier database of profiles of scientists/researchers and other faculty members working at leading academic institutions and other R & D organizations involved in teaching and research in India): ICT Initiatives of MoE, National Mission on Education through ICT (NMEICT)
- **Innovation Ambassador- MoE's Innovation Cell (Govt. of India) & Institution Innovation Council** (Ministry of Education Initiative-AICTE) -2021 onward
- **NISP Coordinator: Implementation of MoE.'s National Innovation and Startup Policy** for students and faculty (NISP at MNIT Jaipur NISP Implementation Team, **MoE.'s** Innovation Cell, Nov. 2020 - June 2022

- **Coordinator, Atal Ranking of Institutions on Innovation Achievements (ARIIA)** Ranking in Malaviya National Institute of Technology Jaipur (Rajasthan) India 2020-22
- **Founder Secretary, Indo-US Research Institute for Sustainable Development**, Jharkhand state Centre Ranchi, 2017.

Teaching and Courses/Programme/Lab Development/ Curriculum Development

Teaching Interest :Operation Research, Optimization in the Manufacturing system, Operation Management, Lean Six Sigma, Operation, and Planning Control, Modeling & Simulation

Coordinated to introduce Honors offered by Mechanical Engineering Department in “Supply Chain Analytics” 2023 (UG SCHEME 2022: Department of Mechanical Engineering)

Course developed:

PG 21MET521 Advance Optimization Techniques, 21MET526 Quality System Engineering, 21MET821 Six Sigma & Lean Manufacturing, 21MET823 Sustainable Manufacturing, 21MET824 System Modeling and Simulations, MPE 1001-Manufacturing Automation, MPE 2007 Product Design & Manufacturing, MPE 2002 IMS laboratory/coursework , MCD 2006-Automation & Robotics Lab (Sessional) , MPE1002- Computer Aided Mfg Lab ,Flexible Manufacturing System & Robotics Lab

UG: 22MET950 Quality System Engineering , 22MET959 Industry 4.0, 22MET961 Lean Six Sigma, 22MET977 Smart Manufacturing, 22MET978 Sustainable Mfg. & Life Cycle Engg, 22MET933 Modelling Sustainability , 22MET938 Business Logistics , 22MET948 Prescriptive Analytics PE 7019-Advanced Operations Research, PE 6004, Manufacturing Automation & Rob, PE 6007, Manufacturing Automation & Rob Lab, PE1202 - Workshop Practice

Lab development contribution to knowledge creation

Lab Development: Established CAD Lab at HCET Jabalpur in 2001 ,FMS lab (2010) and CAM Lab at BIT Mesra in 2017. Sustainable Manufacturing Lab at MNIT Jaipur in 2019.

Development of Laboratories/Centre/ Lab and Manual (Experiments) Developed:

- CAM (Create and validate NC part program data using manual data input (MDI) for manufacturing of required components using CNC milling or turning applications Through CAM Software like Fanuc, Siemens, Unimat etc.) established,2017
- Upgraded and established Flexible Manufacturing System (Updration of control of CNC lathe and CNC mill from DOS to Computer Control, AS/RS,Six axis robot, Loading and unloading arm& In-charge F.M.S. Lab, Birla Institute of Technology, Mesra, 2005-2012 FMS Setup upgraded to CIM
- Established CAD/CAM Lab & In charge CAD/CAM Lab,HCET,Jabalpur, (2002-2004)
- Prepared Lab Manual PE-8204 FMS&R Lab Manual, ME-1002 CAM Lab Manual{M.E.-Ist Sem.(AMS)},Prepared Lab Manual for CAM Lab ,Prepared Lab Manual IMS Lab{M.E.-IInd Sem.(AMS)},PE1202 Workshop Practice Lab Manual
- MCD 2006 Automation & Robotics Lab ,FMS Lab and Manual (Experiments) Developed

MEMBER OF NATIONAL STANDARD BODIES OF INDIA (BIS) AND PROFESSIONAL BODIES

1. **Member , Bureau of Indian Standards, Quality Management Sectional Committee (MSD 2)**, (2025-till date)
2. **Member, Bureau of Indian Standards (Production and General Engineering Department)** The Educational Instruments and Equipment Sectional Committee, (2020-till date)
3. **Primary Evaluator, Ministry of Education’s Innovation Cell and AICTE**, on getting selected for the Toyathon-2021
4. **Fellow** ,The Institution of Engineer’s (IEI), India,31st July,2011
5. **Fellow**, Indian Institution of Industrial Engineering (Mumbai),2025
6. **Associate Member**, International Society for Development and Sustainability (ISDS).
7. **Life Member of Analytics Society of India (ASI). (Oct-11, 2022 to till Date)**
8. **Life Member “Operational Research Society of India” (October 10, 2022 to till Date)**
9. **Life Member of Indian Institution of Production Engineers (IPE), India**
10. **Life member of Indian Society of Technical Education, (ISTE, New Delhi)**

11. **Member of International Association of Engineers (IAENG)**
12. **Member Science and Engineering Institute (SCIEI),**
13. **Board member, Production Division Board, The Institution of Engineers (IEI), India, 2015-16.**
14. **Advisor, All India Student's Committee (AISC), IE(I),2010-11,2011-12**

Administrative Responsibility (Department Level):

1. Member, Departmental Under Graduate Committee (DUGC) in Department of Mechanical Engineering, Malaviya National Institute of Technology Jaipur from – Oct. 2024 to Till Date
2. PG Coordinator (Industrial Engineering) in Department of Mechanical Engineering, Malaviya National Institute of Technology Jaipur from - 01-07-2022 to Oct 2024.
3. Member, Departmental Post Graduate Committee (DPGC) in Department of Mechanical Engineering, Malaviya National Institute of Technology Jaipur from - 01-07-2022 to Oct 2024
4. NBA Coordinator (Mechanical Engineering Dept, MNIT Jaipur) –UG Mech., PG(D/T/P/IE), 2018-2022

Contributions to Institute Administration: (Institute-Level Responsibilities):

1. Coordinator ,IPR Malaviya National Institute of Technology Jaipur (Rajasthan) (17/01/24 to 16/07/24).
2. Coordinator, Library in Malaviya National Institute of Technology Jaipur (Rajasthan) (18/07/22 to 16/07/24)
3. Co-convener, Institute Innovation Council (IIC 4.0) , MNIT Jaipur (2022-23)
4. "Nodal officer", Industry Institute Interaction Cell" in MNIT Jaipur (16/07/18 to17/07/22)
5. "Coordinator, UBA" in Malaviya National Institute of Technology Jaipur, from 16/08/18 to Aug,2019
6. External member for DPGC,DSC and Guest faculty Selection (NCDMM,MAME:MNIT Jaipur) 2022-23,23-24 ,2024-25
7. Associate Dean (Research), MNIT, Jaipur (27/06/19 to 17/07/22)

Recent Evidence of Academic Esteem/Professional Leadership

1. Mentor, **S&T Hackathon**, 11th IISF-2025 coordinated by the Ministry of Earth Sciences (MoES) in collaboration with DST, DoS, DBT, CSIR, DAE, PU and VIBHA, CSIR-CSIO, Chandigarh, Dec-2025
2. Panelist (Nov-Dec 2024) in "**Making India a Global Manufacturing Hub through Industry 4.0**" , "**Advanced Manufacturing & Industry 4.0**" theme under "**New Frontiers of Science & Technology for Viksit Bharat 2047 - Pragya Bharat**," 10th edition of IISF held at IIT Guwahati from November 30 to December 3, 2024. initiative of the Ministry of Science & Technology and the Ministry of Earth Science, Government of India, in association with Vijnana Bharati.
3. Special Session (Dec. 2024) on "Human-Centric Production Systems in the Era of Industry 5.0" at 51st International Conference on Computers and Industrial Engineering, at the University of Adelaide (Australia), between 9th and 11th December 2024 "<https://conference.unsw.edu.au/en/the-51st-International-conference-on-computers-and-industrial-engineering>".
4. National Council Member, Indian Intuition of Industrial Engineering, Navi Mumbai, 2025-27

Recently Submitted papers in Top-tier Journals:

1. (2025) "Are Mature Firms More Sustainable? An analysis of Industry 4.0 maturity, International Journal of Innovation Studies, Emerald Publishing, (SCI Indexed, Q1) (Impact Factor 5.3)
2. (2025), "Quantifying Reconfigurability in Supply Chains: A Comprehensive Analysis of Agro-industrial Waste Supply Chain", Process Safety and Environmental Protection (SCI Indexed, Q1)
3. (2025), 'Assessing Enablers for Digital Trust for Supply Chain Digitalization-An Integrated Approach in the Indian Manufacturing Sector', International Journal of Intelligent Enterprise (Scopus, Q4)
4. (2024) Resilient sustainable supply chain: Systematic literature review and future research directions. International Journal of System Assurance Engineering and Management SCOPUS, ESCI) (Submitted-Under Review)
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