

| Name | Designation | Educational Qualification | Contact No. / E-mail | Area of Interest |
|---|---------------------|--|--|---|
|  Dr. M.K. Pradhan | Associate Professor | Ph.D. (Manufacturing), P.G. (Production Engineering), UG. (Mechanical Engineering) | mkpradhan.me@nitrr.ac.in , mkpradhan.nitrr@gmail.com | Manufacturing of Advanced Materials, Additive Manufacturing Design of Experiments, Micro/Nano Manufacturing, MEMS |

Dr. M. K. Pradhan

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| Department | Mechanical Engineering |
| Designation | Associate Professor |
| Educational Qualification | Ph.D. (Manufacturing), P.G. (Production Engineering), UG. (Mechanical Engineering) |
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Areas of Interest

- Machining (Conventional & Non-Conventional Machining Process)
- Additive Manufacturing
- Modeling of Machining Process (Statistical Modelling, Neural Networks, Optimization & Simulation)
- Machining of Difficult to Machine Materials and Composite
- Condition monitoring
- Modeling & Optimization of Manufacturing Systems
- MCDM Methods; Decision Making Tools, Soft Computing Techniques.
- Surface Texturing / Surface Coating

Publications

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| Publication | <ul style="list-style-type: none"> • International Journals 90 (SCI/Scopus indexed: 85) • National Conference- 08 • International Conference. 70 • Book Chapters 25 • Book 3 (Scopus indexed:02, web of science indexed :01) • Conference Proceedings as Editor 03 • Journal editorial 04 • Editor-in-Chief, International Journal 01 • Editorial Board Member of Reputed International Journal 07 • Guest Editor, Special Issue 05 • Key Note Lectures/Session Chairs: 22 (International and National Conferences) <p>Total Published Paper <u>180</u></p> |
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International Journals:

- Sharma, Rajesh, **Mohan Kumar Pradhan**, and Pankaj Jain. "Fabrication, characterization and optimal selection of aluminium alloy 8011 composites reinforced with B4C-aloe vera ash." *Materials Research Express* (2023).
- Jaurker, Diksha, and **Mohan Kumar Pradhan**. "Finite element modelling for electrical discharge machining of Ti-6Al-4V alloy and multi-objective optimisation using response surface modelling." *International Journal of Simulation and Process Modelling* 20.1 (2023): 21-30.
- Patel, Rakesh Kumar, and **Mohan Kumar Pradhan**. "Machining of nickel-based super alloy Inconel 718 using alumina Nano fluid in powder mixed electric discharge machining." *Materials Research Express* (2023).
- Pateriya, Ambuj, and **Mohan Kumar Pradhan**. "Dry sliding wear response of aluminium matrix composites (AMCs): a critical review." *Materials Research Express* (2023).
- Kumar, Amit, and **Mohan Kumar Pradhan**. "An ANFIS modelling and genetic algorithm-based optimization of through-hole electrical discharge drilling of Inconel-825 alloy." *Journal of Materials Research* 38.2 (2023): 312-327.
- **Pradhan, M. K** Optimization of EDMed fly ash and Rice husk ash reinforced hybrid Al-based composite using improved COPRAS and Entropy method, *International Journal of Manufacturing Research*, V 18, N 2, P 1-18, 2023 Inderscience
- Pateriya, Ambuj, and **Mohan Kumar Pradhan**. "Dry Sliding Wear Response of Aluminium Matrix Composites (AMCs): A Critical Review." *Materials Research Express* (2023).
- **Pradhan, M. K.**, and Amit Kumar. "V K Jain (Ed.) (2014). Introduction to Micromachining. New Delhi, India: Narosa Publishing House. 624 pp. \$43.12 (Paperback), ISBN: 978-81-8487-361-0." (2022): 224-227.
- **Pradhan, Mohan Kumar**. "An integrated fuzzy AHP approach for optimization of theory of failures of multi-directional composite laminates." *International Journal of Simulation and Process Modelling* 18.3 (2022): 181-199.

- **Pradhan, M. K.** "Optimisation of EDMed fly ash and rice husk ash reinforced hybrid Al-based composite using improved COPRAS and entropy method." *International Journal of Manufacturing Research* 18.2 (2023): 165-189.
- Pateriya, Ambuj; Mittal, N.D.; **Pradhan, M.K.**; Investigations of Wear in Journal Bearings Due to Lubricant Contamination Turkish Online Journal of Qualitative Inquiry (TOJQI) 12 9 3351 – 3359 2021 Science Research Society
- Pateriya, Ambuj; Mittal, N.D.; **Pradhan, M.K.**; Failure Analysis of Journal Bearings due to Lubricant Contamination Turkish Journal of Physiotherapy and Rehabilitation 32 3 17794-17802 2021 Türkiye Fizyoterapistler Derneği
- Agarwal, N., N. Shrivastava, and **M. K. Pradhan.** "Hybrid ANFIS Rao algorithm for surface roughness modelling and optimization in electrical discharge machining." *Advances in Production Engineering & Management* 16.2 (2021): 145-160.
- Pateriya A., Mittal N.D., **Pradhan M.K.** (2022) Identification of Lubricant Contamination in Journal Bearings Using Vibration Signature Analysis. In: Verma P., Samuel O.D., Verma T.N., Dwivedi G. (eds) *Advancement in Materials, Manufacturing and Energy Engineering, Vol. II. Lecture Notes in Mechanical Engineering.* Springer, Singapore. https://doi.org/10.1007/978-981-16-8341-1_3
- Patel R.K., **Pradhan M.K.** (2022) Powder Mixed Electrical Discharge Machining of EN 31 Steel. In: Verma P., Samuel O.D., Verma T.N., Dwivedi G. (eds) *Advancement in Materials, Manufacturing and Energy Engineering, Vol. II. Lecture Notes in Mechanical Engineering.* Springer, Singapore. https://doi.org/10.1007/978-981-16-8341-1_13
- Kumar A., **Pradhan M.K.** (2022) EDM Process Optimization of Machining Parameters for Through Hole Making on HCHCR AISI-D7 Steel Using RSM. In: Verma P., Samuel O.D., Verma T.N., Dwivedi G. (eds) *Advancement in Materials, Manufacturing and Energy Engineering, Vol. II. Lecture Notes in Mechanical Engineering.* Springer, Singapore. https://doi.org/10.1007/978-981-16-8341-1_15
- Sharma R., **Pradhan M.K.**, Jain P. (2022) A Review on Tribo-Mechanical Behaviour and Corrosion Performance of AA8000 Based Composites. In: Verma P., Samuel O.D., Verma T.N., Dwivedi G. (eds) *Advancement in Materials, Manufacturing and Energy Engineering, Vol. I. Lecture Notes in Mechanical Engineering.* Springer, Singapore. https://doi.org/10.1007/978-981-16-5371-1_40
- Agarwal N., Shrivastava N., **Pradhan M.K.** (2021) A New Constrained-Based Multi-Objective Optimization Method for Electric Discharge Machining. In: Agrawal R., Jain J.K., Yadav V.S., Manupati V.K., Varela L. (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_42
- Kumar A., **Pradhan M.K.** (2021) Mechanical and Tribological Behavior of Al7075/SiC/WS₂ Stir Casting Fabricated Composite with Optimization of EDM Parameters. In: Agrawal R., Jain J.K., Yadav V.S., Manupati V.K., Varela L. (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_46
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- Neeraj Agarwal, Nitin Shrivastava & **M. K. Pradhan**, EDM parameter optimization on tool wear rate using advanced optimization of titanium alloy", *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*, ISSN (P): 2249-6890; ISSN (E): 2249-8001 Vol. 9, Issue 4, Aug 2019, 831-838
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- **Mohan K Pradhan***, Raja Das, Chandan K. Biswas, “*Predictive modeling and analysis of surface roughness in electro-discharge machining of D2 tool steel using regression and neural networks approach*”, Int. Journal of Design and Manufacturing Technologies, Vol.-3, No-2, 2009
- **Mohan K Pradhan***, R. Das and C. K. Biswas, “*Prediction of Material Removal Rate using Recurrent Elman Networks in Electrical Discharge Machining of AISI D2 tool steel*”, Int. Journal of Manufacturing Technology and Industrial Engineering (IJMTIE)1(1) June 2010, pp. 29-37
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Books-

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2. Das, R. and M.K. Pradhan eds., 2017. Handbook of Research on Manufacturing Process Modeling and Optimization Strategies. IGI Global.
3. M.K. Pradhan A Kumar and A Verma, Proc. of International Conference on Industrial, Mechanical and Production Engineering: Advancements and Current Trends (IC IMPACT – 2014)
4. C.M. Krishna, A.R. Siddiqui and M.K. Pradhan, Proc. of 1st International Conference on Mechanical Engineering: Emerging Trends for Sustainability (IC MEETS – 2014)
5. Verma, A., Kumar, A. and Pradhan, M.K., 2014. Advancements and Current Trends in Industrial, Mechanical and Production Engineering.

Other Info.

Experience Description:

- Associate Professor, NIT Raipur, Chhattisgarh, India from Jan 2020 to Till Date
- Assistant Professor, MANIT Bhopal, Madhya Pradesh, India from 2010 to Aug 2023

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| Number of P.G. Projects /Ph.D. guided | <ul style="list-style-type: none">• Ph.D. Guided: 03 + 02 (Submitted) (in the area of Modelling and optimization of manufacturing processes, condition monitoring) |
| Number of P.G. Projects guided | 42 M.Tech Thesis Supervised (in the area like manufacturing, design analysis, and development and characterization of advanced material) |
| Project/ Consultancy undertaken | <ul style="list-style-type: none">• Project 03, (Completed)• Integrated Modelling and Analysis of Machining of Composite Materials on Advanced Machining Machines, MHRD, MANIT (Grant in Aid), July 2011 to July 2013. (Completed).• Development and machinability of metal matrix composites for industrial application 2016-2018 (Completed).• Consultancy 01 |
| Member of professional bodies | <ol style="list-style-type: none">1. Chartered Engineer IE(I)2. Institution of Engineers (India) Member3. Indian Society of Technical Education Life Member of |

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| | <ol style="list-style-type: none"> 4. Life Fellow, Indian Institution of Production Engineers (IPE) 5. IACSIT, Member 6. IAENG, International Association of Engineers, member |
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| Achievements/ Awards | <ul style="list-style-type: none"> • Has been featured in the list of the top 2% of world scientists in 2021, 2022 and 2023, which was prepared by a team of scientists at the US Stanford University. • A member of the Research Council of KIST, Bhubaneswar, Odisha, recognized as Scientific and Industrial Research Organization (SIROs) by DSIR under the ministry of Science and Technology, Government of India. |
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| Conferences/Course organized | <ol style="list-style-type: none"> 1. One-week 2nd online workshop on "Computational and Experimental Methods in Manufacturing (CEMM-2022)" during 07–11 March 2022 as Coordinator 2. One-Week online workshop on "Computational and Experimental Methods in Manufacturing (CEMM-2021)" 22-26 Feb. 2021 as Coordinator 3. One-week SHORT TERM TRAINING PROGRAMME on "Research Oriented Training on CNC Machines" (Self-sponsored) during 14-18, December 2017 as Coordinator 4. Six days FDP on "Advances in Product Design and Manufacturing [APDM]". Supported by: Electronics and ICT Academy, IIITDMJ, an initiative of Department of Electronics & IT, Ministry of Communications and IT, Govt. of India, during January 3-8, 2017 as Coordinator. 5. One Week Short Term Training Program On "Recent Advancements in Product Innovations and Design (RAPID 2014)" During February 17th-21st 2014 as Coordinator 6. Organizing International Conference on Advances in Materials and Manufacturing Technology, AMMT-2022, November 22–26, 2022, as Coordinator (M.P.), (An Institute of National Importance), as Organizing Secretary 7. International Conference on Industrial, Mechanical, and Production Engineering: Advancements and Current Trends, November, 27- 29, 2014, as Coordinator 8. Organized Short Term Training Programme On Recent Advancements in Product Innovations and Design (RAPID-2014) (Co-sponsored by TEQIP Phase II) during 17-21 February 2014, as Coordinator 9. Organized 1st International Conference on "Mechanical Engineering: Emerging Trends for Sustainability" during January 29-31, 2014. jt. Organizing Secretary. 10. Organized One Day National Workshop on Smart Cities-Their influence on Rural Development (Co-sponsored by TEQIP Phase II) (13th October 2016, as Coordinator 11. Organized National Symposium on "Recent Developments in Industrial Maintenance Management" at Synergy Institute of Engineering and Technology, as Convener. On 22nd April 2006. Sponsored by CSIR and ISTE, Convener |
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| Any other information | <p>Google Scholar, ScopusAuthor, ResearcherID, ResearchGate, Sites, Google site,</p> <p>Other IDs</p> <p>Scopus Author ID: 30967641700, ResearcherID: K-8680-2013, Scopus Author ID: 57194244850</p> |
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