



## Department of Mechanical Engineering

### Faculty Profile

#### Prof.(Dr) Mangesh R. Phate

PhD (Mechanical Engineering)

Professor & Head

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🔗 <https://scholar.google.co.in/citations?user=aeKnj04AAAAJ&hl=en>

🔗 <https://www.scopus.com/authid/detail.uri?authorId=56660634500>

#### ResearchAreas/ Areas of Interest

Manufacturing, Composite material, Bio-dynamics

#### Personal Details

**Date of Birth :** 03 / 06 / 1980

**Domicile:** Maharashtra

**Gender :** Male

**Blood Group:** O+ve

**Contact Details:** E-602, Daulatnagar Phase II, Near Sinhgad Road police Station,  
Suncity Road, Vadgon (Bk), Pune – 411051

#### Academic Background

S. NO.	Qualification	Specialization	University	Class/Grade	Year of Passing
1	Ph.D.	Mechanical Engineering	RTM, Nagpur	Awarded	April 2015
2	M.Tech.	Production Engg	RTM, Nagpur	I <sup>st</sup> with Distinction (Gold medalist)	Dec 2005

3	M.B.A	Human	YCMOU	I <sup>st</sup>	May 2008

		Resources & Management			
4	B.E.	Mechanical Engineering	Amravati	I <sup>st</sup>	June 2002

### Work Experience

S. No.	Type of Experience	Years	Months
1	Teaching	20	01
2	Research	00	00
3	Industry	1	1
4.	Others	--	--
<b>Total</b>		<b>21</b>	<b>1</b>

### Subjects/Courses Taught

S. No.	Subject	UG/PG	Class (FE/SE/TE/BE/ME)	No of times Subject Taught
1	Design of Machine Elements - I & II	UG	TE (Mechanical)	05
2	Mechanical System Design	UG	BE (Mechanical )	05
3	Operation Research	UG	BE (Mechanical and SW)	10
3	Research Methodology	PG	FYME (Mechanical)	02
4	Optimization Techniques	PG	SYME (Mechanical)	07

### Research Publications

	National	International	State	SCI/ Scopus Indexed	UGC Approved
<b>Journals</b>	05	75	03	27	15
<b>Conferences</b>	04	07		01	--

## Publication Details (Journals) Scopus, WoS & SCI

S. No	Document Details	Authors	Year	Source Details	ISBN/ISSN	Publisher
1.	Modeling and prediction of WEDM performance parameters for Al/SiCp MMC using dimensional analysis and artificial neural network	Mangesh Phate, Shraddha Toney	2019	Engineering Science & Technology, An Int. Journal, 22 (2), 468-476	ISSN 2215-0986	Elsevier
2.	Prediction And Optimization Of Tool Wear Rate During Electric Discharge Machining Of Al/Cu/Ni Alloy Using Adaptive Neuro-Fuzzy Inference System	Mangesh Phate, Shraddha Toney & Vikas Phate	2020	Heliyon, 6 (10), 1-10	ISSN 2405-8440	Elsevier
3.	Response Surface Modelling and Effective Application of Adaptive Neuro-Fuzzy Inference System to Analyze Surface Roughness of Al/Gr/Cp5 MMC	Mangesh Phate, Shraddha Toney & Vikas Phate	2021	Australian Journal of Mechanical Engineering	1448-4846	Taylor and Francis
4.	Modeling and	Mangesh Phate,	2020	Australian	1448-	Taylor and

	Investigating the Impact of EDM Parameters on Surface Roughness in EDM of Al/Cu/Ni Alloy	Shraddha Toney & Vikas Phate		Journal of Mechanical Engineering	4846	Francis
5.	Analysis of Machining Parameters in WEDM of Al/SiCp20 MMC Using Taguchi based Grey-fuzzy Approach	Mangesh Phate, Shraddha Toney & Vikas Phate	2019	Modelling and Simulation in Engineering 2019	1687-5591	Hindawi
6.	Analysis of Seat to Head Transmissibility of the Seated Human Body using Artificial Neural Network	Mangesh Phate, Prateek Gaikwad, Shraddha Toney	2022	Institution of Engineers, India Series C , 103(4), 557-571	2250-0545	Springer
7.	Multi-response Optimization and Analysis of Al/B <sub>4</sub> Cp MMC EDM using Grey Relational Analysis	Mangesh Phate, Shraddha Toney & Vikas Phate	2022	Journal of mechanical Engineering, <b>19(1)</b> PP: 39-55	1823-5514	J MEch
8.	Multi-response Optimization of Al/GrCp10 MMC performance in WEDM using integrated TOPSIS-	Mangesh Phate, Shraddha Toney & Vikas Phate	2022	<b>Springer.</b> Institution of Engineers, India Series D Vol. 103 (Issue 1) PP: 249- 261	2250-0545	Springer

	ANFIS approach					
9.	Comparative Analysis of Abrasive Wear using Response Surface Method and Artificial Neural Network	D Y Dhande & Mangesh Phate	2021	<b>Springer.</b> Institution of Engineers, India Series D, 102(1), PP : 27-37	2250-2130	Springer
10	Multi-Parametric Optimization Of WEDM Using Artificial Neural Network (ANN) Based PCA For Al/SiCp MMC.	Mangesh Phate, Shraddha Toney & Vikas Phate	2021	<b>Springer.</b> Institution of Engineers, India Series C Vol. 102 (Issue 1) PP: 169- 181	2250-0545	Springer
11	Exploring Biodynamic Response (Apparent Masses) of a Seated Human Body Exposed To External Excitation in Vertical Direction	Mangesh Phate & Prateek Gaikwad	2018	Int. Journal of Industrial Engg. & Prod.Res, Vol. 29/Issue 4 [2018] PP: 415 - 428	2008-4889	--
12.	Modeling and Critical analysis of Material Removal Rate in WEDM of Oil Hardening Non Shrinking Die Steel (OHNS).	Mangesh Phate, Shraddha Toney & Vikas Phate	2020	Engineering and Applied Science Research, Vol 47 , No 3 [2020] PP:264-274	[2539-6161]	---
13.	Optimization Performance Parameters of OHNS Die Steel	Mangesh Phate, Shraddha Toney & Vikas Phate	2019	Int. Journal of Industrial Engg. & Prod.Res, Vol. 30/Issue	2008-4889	--

	using Dimensional Analysis Integrated with Desirability Function			1 PP: 11-23		
14.	Investigation on the Impact of Silicon Carbide and Process Parameters on Wire Cut-EDM of Al/SiCp MMC.	Mangesh Phate, Shraddha Toney & Vikas Phate	2019	Int. Journal of Industrial Engg. & Prod.Res, 31(2) PP : 177-187	2008-4889	--
15.	Optimistic Implementation of Supply Chain Management in Small & Medium Enterprise: Approach using Grey Relational Analysis (GRA)	Mangesh Phate, Shraddha Toney & Vikas Phate	2021	Int. Journal of Industrial Engg. & Prod.Res, Vol 32, No 1 (2021) , PP :65-77	2008-4889	--
16	Analysis of Seat to Head Transmissibility of the Seated Human Body using Artificial Neural Network	Mangesh Phate, Shraddha Toney & Vikas Phate	2022	<b>Springer.</b> Institution of Engineers, India Series C Vol. 103 (Issue 4)	2250-0545	Springer
17	Evaluation of Human Seated Posture Exposed to Low Frequency Vibrations using Biodynamic Model	Mangesh Phate, Shraddha Toney & Vikas Phate	2023	<b>Inderscience</b> , International Journal of Vehicle Safety Vol. 12/ No 3 / 4 (2023)	1479-3113]	Inderscience
18	Design, Development and Performance Analysis of Portable Solar Scheffler Reflector Water Heater (SRWH)	Mangesh Phate, Shraddha Toney & Vikas Phate	2023	Vol 73, Issue No 2 Dec 2023, PP : 91-103		Inderscience

19	Manufacturing and performance evaluation of Al/SiC/coconut & bagasse ash composite using novel integrated dimensional analysis (DA) and adaptive neuro fuzzy inference system (ANFIS) techniques	Mangesh Phate & Mangesh Mote	2024	International Journal on Interactive Design and Manufacturing (IJIDeM)		Springer
20	Soft Computing Based Comparative Analysis of Al/Gr/Cp5 MMC WEDM	Mangesh Phate & Shraddha Toney	2025	Int. J. of Machining and Machinability of Materials 04/08/2025 27(3) 2025 PP : 257-270		Inder science

### Publication Details (Conferences)

S. No	Document Details	Authors	Year	Conference Details	ISBN	Organised by
1.	Application of TOPSIS for Selection of Machining Parameters from Environmental	Mr. Sunil Dambhare, Dr. S.J.Deshmukh, Dr. Atul Borade, Dr. Abhijit Digalwar and Mr. Mangesh Phate	2015	8th International ISDSI Conference 2015 Pune, India during 2-4 January 2015	206	ISDSI

	Impact Prospective					
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2.	Sustainability Issues in Turning Process: A Study in Indian Machining Industry	Mr. Sunil Dambhare, Dr. Samir Deshmukh, Dr. Atul Borade, Dr. Abhijit Digalwar and Mr. Mangesh Phate	2014	12 <sup>th</sup> Global International Conference on Sustainable Manufacturing- Emerginh Potentials 2014	2212-8271	Procedia CIRP, Volume 26, Page 379-384. , Johor Bahru, Malaysia
3.	A review and suggested approach to design a field data based model for the machining process	Mr. M.R.Phate , Dr.V.H.Tatwawadi,J.P.Modak and S.G.Dambhare	2012	A national conference on innovative trends for technology developments (Technocon-2012)		Datta Meghe Institute e of Engineering and Research , Wardha.
4.	A Sustainability analysis in the Indian Machining Industry”A national conference on intelligent systems(NCIS-2012)	Mr. M.R.Phate , Dr.V.H.Tatwawadi,J.P.Modak and S.G.Dambhare	2012	A national conference on intelligent systems(NCIS-2012), NCIS/2012/117,		Chameli Devi group of institution (CDGI),C heameli Devi School of Engineering ,Indore



### PhD / ME / BE Student Guided for Project

Level	Ph.D.	M.E. (PG)	B.E. (UG)
No. of Student guided	-	20	32

### Professional Memberships

Professional Body	Level ( National/ International)	Type (Fellow/Life/Annual)	Membership No.
Indian Society for Technical Education (ISTE)	National	Life	LM47428
Solar Energy Society of India (SESI)	National	Life	LM/2559/2021
Society of Automotive Engineers INDIA (SAE INDIA)	National	Annual	7220510072

### Patents/IPR Filed/Granted

S. No	Investigator Details	Title	Year	Status (Filed/Granted)	Details
Patent					
1	Mangesh Ravindra Phate	A Hybrid Powered Mixed Garbage Disposal And Converter Unit	2014	Published	Application No: 2879/MUM/2014

Copyrights					
2	Mangesh Ravindra Phate	Formulation of Experimental Data Based Model for the Machining Process using Dimensional Analysis Approach.	07/02 /2019	<b>Registered</b>	17759/2018-CO/L
2	Mangesh Ravindra Phate	Critical Analysis of novel fabricated Al/SiC/B4C Metal Matrix Composites Machining Performance.	24/04 /2019	<b>Registered</b>	2254/2019-CO/L
3	Mangesh Ravindra Phate	Analysis of 6-DOF Human Biodynamic Model for Seated Human Posture Using Artificial Neural Network.	14/05 /2019	<b>Registered</b>	3963/2019-CO/L
4	Mangesh Ravindra Phate	Formulation Of Experimental Data Based Model For The Machining Process Using Artificial Neural network.	10/09 /2019	<b>Registered</b>	14307/2019-CO/L
5	Mangesh Ravindra Phate	Formulation Of Experimental Data Based Model For The Machining Process Using Higher Degree Response Surface Method.	18/12 /2019	<b>Registered</b>	20317/2019-CO/L
6	Mangesh Ravindra Phate	Easy and Efficient CO-PO/PSO Mapping Process for University Affiliated Engineering Institutes.	15/02 /2021	<b>Registered</b>	21661/2020-CO/L

## Books Published

S. No	Title	Name of the Publisher	ISBN/ISSN Number
1	Field Data Based Model (FDBM): A Heuristic Approach Of Research	Lambert Academic Publishing Germany	978-3-659-60804-9
2	Analysis Of Scheffler Reflector Performance By Response Surface Method- Application For Electricity Generation	Lambert Academic Publishing Germany	978-3-659-78563-4
3	Analysis Of Scheffler Reflector Performance By Response Surface Method- Application For Electricity Generation	Lambert Academic Publishing Germany	978-613-9-99228-7
4	Fabrication Of Solar Controlled Temperature Dryer	Lambert Academic Publishing Germany	978-613-9-99230-0
5	Operation Research -Elective II (Savitribai Phule Pune University)	Sharp (Success) Publication	978-93-24457-08-2
6	Experimental data based model formulation for engine assembly process- Model for Engine Assembly	Lambert Academic Publishing Germany	978-613-9-99228-7
7	Critical Analysis Of Covid-19 Global Pandemic: Part I	Lambert Academic Publishing Germany	978-620-4-19931-3

## Research Grants Received

S. No	Program	Duration	Funding Agency	Grant Amount
1.	<b>AICTE-ISTE</b> Sponsored One week (6 days) online Induction/Refresher Program on „Advances in Engineering“	8/12/2021 to 14/12/2021	AICTE-ISTE	93,000/-
2.	Savitribai Phule Pune university Sponsored under QIP an International Conference on „Mechanical Engineering for Sustainable Development -2020“	17/02/2020 to 18/02/2020	SPPU Pune	2,00,000/-

### Details of Workshop/STTP/FDP/Seminar / Conferences Organized

S. No	Title	Type	Duration	Level (State/National/ International)	Sponsoring Agency
01	<b>AICTE-ISTE</b> Sponsored One week (6 days) online Induction/Refresher Program on „Advances in Engineering“	Induction/ Refresher Program	8/12/2021 to 14/12/2021	<b>National</b>	AICTE-ISTE
02	Savitribai Phule Pune university Sponsored under QIP an International Conference on „Mechanical Engineering for Sustainable Development -2020“	International Conference	17/02/2020 & 18/02/2020	<b>International</b>	SPPU

### Contribution as Resource Person

S. No.	Place/ Organization	Topic	Level(National/Int/ State/Regional)	Date
1.	Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering (YCCE), Nagpur, Maharashtra, India.	Session Chair in International conference on “Recent Advances in Materials, Manufacturing and Machine Learning(RAMMML-2022)”	Recent Advances in Materials, Manufacturing and Machine Learning (RAMMML-2022) on 26 &27 April 2022	<b>27/07/2022</b>
2.	Zeal College of Engineering &	Expert Session on “NBA Attributes for	Scope of the Design of Machine Elements	<b>21/03/2022</b>

	Research, Pune	the students" @ Zeal College of Engineering & Research, Pune	with Real time Applications and Opportunities in the Industry Approach) on 21/03/2022	
3.	Zeal College of Engineering & Research, Pune	Expert Session on "Scope of the Design of Machine Elements with Real time Applications and Opportunities in the Industry" @ Zeal College of Engineering & Research, Pune	Scope of the Design of Machine Elements with Real time Applications and Opportunities in the Industry Approach) on 22/01/2022	22/01/2022
4.	Zeal College of Engineering & Research, Pune	Expert Session on "Research Scope for Engineering Students" @ Zeal College of Engineering & Research, Pune	Scope of the Design of Machine Elements with Real time Applications and Opportunities in the Industry Approach) on 11/09/2021	11/09/2021
5.	AISSMS, Pune	Five Days <b>Faculty Development Program</b> on "Software Based Case Studies for Development of Multidisciplinary Projects" Under AISSMSCOE"s Faculty Development Cell	Experimental Data Based Model(EDBM):- (An Effective Research Approach) on 26/11/2021	26/11/2021
6.	AISSMSCOE, Pune	One week online <b>AICTE-ISTE</b> approved <b>Induction/Refresher Program</b> on "Advances in Engineering"	Use of soft computing in various Engineering application on 14/12/2021	14/12/2021

## Details of Workshop/STTP/FDP/Conferences Attended

S. N	Title	Type	Duration	Organizer	Sponsoring Agency
1	MOE"s IIC and AICTE sponsored Impact Lecturer on „Intellectual Property Rights“	Seminar	30/07/2022	Pimpri Chinchwad College of Engineering and Research , Ravet, Pune	MOE"s IIC and AICTE
2	One day Online industrial training on “ Scientific Publishing- manuscript preparation and peer review”	Training	26/07/2022	Mech Aero Foundation ,Chennai, India	Mech Aero Foundation
3	Workshop/Training on national IP awareness mission (NIPAM), Government of India, New Delhi (AISSMSCOE, Pune)	Workshop /Training	09 March 2022	IPR office Government of India New Delhi	IPR office Government of India New Delhi
4	Workshop/Training on national IP awareness mission (NIPAM), Government of India, New Delhi (Gov. Poly Amravati)	Workshop /Training	29 Jan 2022	IPR office Government of India New Delhi	IPR office Government of India New Delhi
5	AICTE-ISTE approved <b>one Week STTP</b> on „Advances in Engineering “	STTP	08 <sup>th</sup> Dec 2021-14 <sup>th</sup> Dec 2021	AISSMSCOE, Pune, Maharashtra, India	AICTE_ISTE
6	AICTE-ISTE approved <b>one Week STTP</b> on „Creative and innovative Approaches for Teaching and Learning “	STTP	04 <sup>th</sup> Oct 2021- 8 <sup>th</sup> Oct 2021	Dr. Rajendra Gode Institute of Technology and Research , Amravati	AICTE_ISTE
7	AICTE-ISTE approved <b>one Week STTP</b> on „Techniques for developing creativity and innovation among students“	STTP	24 <sup>th</sup> May 2021- 28 <sup>th</sup> May 2021	Dr. Rajendra Gode Institute of Technology and Research , Amravati	AICTE_ISTE
8	NPTEL-Swayam-AICTE Approved <b>FDP [1.5 Week]</b> -Mathematical Modeling Of Manufacturing Processes	FDP	Jan -June 2019 [1.5 week]	IIT Madras (NPTEL/Swayam-AICTE)	AICTE
9	NPTEL-Swayam-AICTE Approved <b>FDP [1 Week]</b> -Mechanics of Machining	FDP	Jan -June 2019 [1 week]	IIT Guwahati (NPTEL/Swayam-AICTE)	AICTE
10	NPTEL-Swayam-AICTE Approved <b>FDP [1.5 Week]</b> -NBA Accreditation and Teaching-Learning in	FDP	July-Dec 2020 [1.5 week]	IISC Bangalore (NPTEL/Swayam-AICTE)	AICTE

	Engineering (NATE)				
11	NITTR Kolkata approved <b>one Week FDP</b> on „Problem Based Learning“ [1 Week]	FDP	02/12/2019 to 06/12/2019 [1 week]	(NITTR Kolkatta &SITS)	NITTR
12	IIT Bombay Spoken Tutorial +MHRD Gov of India approved <b>one Week FDP</b> on „R programming Language“	FDP	29/04/2020 to 02/05/2020 [1 week]	IIT Bombay Spoken Tutorial +MHRD Gov of India	IIT bombay
13	<b>One Week FDP</b> on „Research Methodology Tools and Techniques“	FDP	29-05-2020 - 02-06-2020 [1 week]	Priyadarshini College of Engineering, Nagpur	AICTE
14	AISSMSCOE NBA and Teaching Learning	FDP	02/06/2020-06/06/2020 [1 week]	AISSMSCOE, Pune	AISSMSCOE, Pune
15	Two days online <b>Workshop</b> on “Multi Criteria Decision making (MCDM) Optimization Techniques using MS Excel”,	Work shop	09/06/2020 & 10/06/2020 [2 days]	Sanjivani College of Engineering, Kopargaon, Ahmednagar	Sanjivani College of Engineering, Kopargaon, Ahmednagar
16	AICTE sponsored <b>One Week</b> (6 DAYS) Online Short Term Training Program ( <b>STTP</b> ) on “Recent Advances in Materials and Manufacturing: Part I” during	STTP	03/08/2020 - 08/08/2020 [1 week]	Dept. of Mechanical Engineering, Gayatri Vidya Parishad College of Engineering (Autonomous), Visakhapatnam, AP, INDIA	AICTE
17	AICTE AQIS sponsored <b>STTP</b> on "Advances in Additive Manufacturing" one week.	STTP	24/08/2020 - 29/08/2020 [1 week]	Siemens Centre of Excellence for Digital Manufacturing and Robotics, Department of Mechanical Engg. YCCE, Nagpur (AICTE approved)	AICTE
18	One Day <b>Work Shop</b> on Design of Machine Elements -II	Work Shop	22/12/2014	Pad. D. Y.Patil College of Engineering, Pimpri ,Pune	Pad. D. Y.Patil College of Engineering, Pimpri ,Pune
19	Teaching Methodology of Mechanical Engineering Courses.	FDP	1/12/2014 to -12/12/2014	Jayantrao Sawant College of Engineering, Pune	SPPU
20	Recent Trends in Mechatronics	FDP	16/04/2012-17/04/2012	Padmabhooshan Vasantdada Patil	SPPU

				Institute of Technology, Bavdhan, Pune	
21	One Day Work Shop on Product Life Cycle	FDP	17/12/2011	MMCOE, Karvenagar, Pune	MMCOE, Karvenagar, Pune
22	One day workshop on Design of hydraulic and pneumatic circuits and PLC by using Automation Studio Software	Work Shop	25/05/2011	Smt. Kashibai Navale College of Engineering, Vadgaon, Pune	Smt. Kashibai Navale College of Engineering, Vadgaon, Pune
23	One week <b>STTP</b> title "Research Methodologies & Mathematical Modeling in Engineering & Technology "	STTP	11 to 15 <sup>th</sup> March 2010	Cummins College of Engineering, Karve Nagar, Pune	AICTE`
24	<b>STTP</b> title "Analysis & Design of Pressure Vessels"	STTP	15 to 17 <sup>th</sup> June 2009	Genba Sopanba Moze College of Engineering, Pune	AICTE
25	Two days Workshop title "Best practices in Engineering & Managements"	Work Shop	26 & 27 <sup>th</sup> Dec. 2008	MMCOE, Karvenagar, Pune	MMCOE, Karvenagar, Pune

### Major Professional Responsibilities Handled

S. No.	Role and Responsibilities
1.	Institute NBA Coordinator
2.	Nodal officer NIRF (National Institute Rankng Framework)
3.	Modal officer ARIIA( Atal Ranking of Institutions on Innovation Achievements)
4.	NAAC Coordinator criteria 3, Research and Development
5.	AICTE-CII Nodal officer
6.	ME Design Coordinator
7.	Research and Development Coordinator
8.	ME Admission In charge



## Awards Received

S. No.	Awards
1.	The Laxminarayan Institute of Technology Silver Jubilee Memorial <b>Gold Medal</b> , First university rank in all post graduation courses in the RTM Nagpur University (2005 examination), RTM Nagpur University
2.	First university rank in all under graduate and post graduation courses in RTM Nagpur University (2005 examination), , RTM Nagpur University
3.	AISSMS <b>Excellence award 2019</b> by All India Shri Shivaj memorial Society , Pune, <b>Best teacher award (Rank 1)</b> [Certificate +50,000 cash prize)] dated 05/09/2019
4	President of India Prize for the Best Journal paper in Institute of Engineers series C, by Institution of Engineers (India) on 27 Dec 2023

**Declaration:** I hereby declare that all the statement made above are correct to the best of my knowledge and belief.

**Dr. M R Phate**