AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Department of Chemical Engineering

Faculty Profile



Dr. Makarand Y Naniwadekar
PhD (Chemical Engineering)
Associate Professor- Department of Chemical Engineering
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MAKARAND NANIWADEKAR (0000-0002-8343-2858) (orcid.org)

Research Areas / Areas of Interest

Artificial Intelligence and Machine Learning techniques applied for Chemical and Biochemical Systems, Process and product Development

Personal Details

Date of Birth :	16 /07 / 1975	**Domicile:**	Maharashtra
Gender :	Male	**Blood Group:**	B+ve
Contact Details:	Flat No. 204, Bldg. No. D-1, Shivsagar City Phase – 1, SN 17, Wadgaon Bk., Pune – 411 041.		

Academic Background

S. N0.	Qualification	Specialization	University	Class/Grade	Year of Passing
1	Ph.D.	Chemical Engineering	Savitribai Phule Pune University Pune	--	May 2019
2	M.E.	Chemical Engineering	Shivaji University Kolhapur	Ist Class with Distinction	May 2008
3	B.E.	Chemical Engineering	Shivaji University Kolhapur	Ist Class with Distinction	May 1996

Work Experience

S. No.	Type of Experience	Years	Months
1	Teaching	26	00
2	Research	01	00
3	Industry	02	00
4.	Others	--	--
Total		**28**	**00**

Subjects / Courses Taught

S. No.	Subject	UG/PG	Class (FE/SE/TE/BE/ME)	No of times Subject Taught
1	Chemical Technology	UG	TE (Chemical)	23

2	Process Engineering Costing and Plant Design	UG	BE (Chemical)	07
3	(Elective III) Food Technology	UG	BE (Chemical)	05
4	(Elective IV) Petrochemical Engineering	UG	BE (Chemical)	05
5	(Elective IV) Environmental Engineering	UG	BE (Chemical)	01
6	Computer Aided Design	PG	ME (Chemical)	02
7.	Advanced Transport Phenomena	PG	ME (Chemical)	01
8	Nanoscience and Nanotechnology	UG	SE (Chemical)	02

Research Publications

	National	International	State	SCI/ Scopus Indexed	UGC Approved
Journals	01	18	00	18	01
Conferences	02	02	00	02	02

Publication Details (Journals)

S. No	Document Details	Authors	Year	Source Details	ISBN/ ISSN	Publisher
1	A review on copper chemical vapor deposition	Santosh Walke, Manoj MAndake, Makarand Naniwadekar,	In Press 07/01/2023	Materials Today: Proceedings (SCOPUS)	ISSN: 2214-7853	Sciencedirect, Elescevier

		Tanmay Ghosh				
2	Cost estimation and profitability analysis for alkaline depolymerization of poly ethylene terephthalate waste	Annasaheb Goje, Abhijit Jadhav, Makarand Naniwadekar, Satyen Mishra	Sept 2005	IE (I) Journal-CH (SCOPUS) 86 / 16 pages	ISSN: 2572-6714	The Institution of Engineers
3	Experimental Investigations of the Removal of Methylene Blue from Waste Water using Agricultural Adsorbent	Manoj Mandake, Santosh Walke, Makarand Naniwadekar, Sandhya Jadhav	2023	International Journal of Membrane Science and Technology (SCOPUS) 10(1) / 1-7	ISSN: 2410-1869	Cosmos Scholars Publishing House,
4	Prediction of Rate Constants of Photocatalytic Degradation of Pharmaceutical Pollutants by Artificial Intelligence based Genetic Programming Formalism	Shishir Tiwari, Makarand Naniwadekar, Snajeev Tambe, Sanjay Kamble	01/04/2018	Current Environmental Management (Formerly: Current Environmental Engineering), (SCOPUS/SCI Finder/ JGate), 5 (1) / 58-67	ISSN 221 2-7178	Bentham Science Publishers,

5	Prediction of coal ash fusion temperatures using computational intelligence-based models	Makarand Naniwadekar, Shishir Tiwari, Sanjeev Tambe	19/09/2018	International Journal of Coal Science & Technology, (SCOPUS), 5 (4) / 486-507	ISSN: 2198-7823	SPRINGER NATURE
6	Epoxidation of Jatropha Oil	Twinkal Zade, Makarand Naniwadekar	May 2023	Journal of Emerging Technologies and Innovative Research, (UGC CARE I), 10(5)/ 258-272	ISSN: 2349-5162	JETIR
7	Anxiety Controlling Application using EEG Neurofeedback System	R. Kishor Kanna, Shashikant Athawale, Makarand Naniwadekar, Nitin Talhar, Sumedh Dhengre	15/03/ 2024	EAI Endorsed Transactions on Pervasive Health and Technology (SCOPUS), 10 / 1-7	ISSN: 2411-7145	EAI Endorsed Transactions
8	An Overview of a glyoxal: Production,	Kedar Chaudhari, Paramanand	2023	Journal of Propulsion Technology (SCI), 44(6)	ISSN: 1001-4055	Tuijin Jishu

	Applications and Adverse effects	Dange, Makarand Naniwadekar				
9	Enhanced Ubiquitous system architecture for securing healthcare IoT using efficient authentication and encryption,	Chaitanya Kulkarni, Makarand Naniwadekar, Shashikant Athawale, Haewon Byeon	02/01/ 2024	International Journal of Data Science and Analytics (SCI) , 11/ 11 pages	ISSN: 2364-4168	Springer Nature
10	Optimized deep learning multi-model investigation of images for ground water level detection,	Santosh Walke, Manoj Mandake, Makarand Naniwadekar, Ravi Tapre	2024	Journal of Autonomous Intelligence, (SCOPUS) , 7(4)/ 8 pages	ISSN: 2630-5046	Frontier Scientific Publishing
11	Sentiment Analysis of Customer Reviews using Pre-trained Language Models	Sohail Khan, Shashikant Athawale, Madhuri Borawake, Makarand Naniwadekar	11(7) / 614-620 12/06/2023	International Journal of Intelligent Systems and Applications in Engineering (SCOPUS)	ISSN: 2147- 6799	International Journal of Intelligent Systems and Applications in Engineering, IJISAE
12	A comprehensive study of performance metrices and	Makarand Naniwadekar, Santosh Walke, Manoj Mandake,	09/01/2025	Solar Energy, (SCI/ Web of Science)	ISSN: 0038-092X	Solar Energy

	potato dehydration at various slice thickness using an IoT-based indirect solar dryer: An experimental approach	Sachin Komble				
13	A Review of Recent Advancements and Perspectives of Nanotechnology in the Application of Biomedical Imaging and Instrumentation	Santosh Walke, Manoj Mandake, Makarand Naniwadekar, Ravi Tapre	2024	Wiley VCH GmbH (Web of Science/SCI/ SCOPUS) 9, e202304082/ 1-14	ISSN: 2365-6549	ChemistrySelect
14	Dehydration of Onion Slices for Food Processing Application Using Internet of Things-Based Smart Solar Drying System		FEBRUARY 2025	American Society of Mechanical Engineering (SCI) Vol. 147 / 014501/1-14	ISSN: 1528-8986	ASME Journal of Solar Engineering
15	A New Frontier in Tomographic Image	Shashikant Athawale,	2025	University of Taiwan (SCOPUS)	ISSN: 1012-3407	Journal of Technology

	Reconstruction using Deep Learning	Makarand Naniwadekar		13(2) / 621-629		
16	Pharmaceutical Waste Water Treatment by Advanced Oxidation Processes	Tejas Velapure, Makarand Naniwadekar, Prashant Warke	June 2025	University of Taiwan (SCOPUS) 13(6)/ 524-543	ISSN: 1012-3407	Journal of Technology
17	Degradation of rhodamine dye using a modified flow photocatalytic reactor in the presence of external oxidants	Manisha Bagal,Vijay mane, Makarand Naniwadekar, Kanchan Bawankar, Parmanand Dange, Ashish Mohod, Parag Gogate	30/10/2024	Wiley Online Library (SCI) 1/ 1-13	ISSN Number : 1939-019X (Online)	The Canadian Journal of Chemical Engineering
18	Optimization of Chemical Engineering Processes in the Mining and Metal Industry	Santosh Walke, Manoj Mandake, Makarand Naniwadekar	2024	Informatics (SCI), 74(4)/ 377-389	ISSN:0022-2755	Journal of Mines, Metals and Fuels
19	Review study of e-waste management	Santosh Walke, Makarand	04/06/2025	Inderscience (SCI), 37(2)	ISSN 1478-9868	International Journal of Environment

	and resource recovery system for controlling environmental pollution	Naniwadekar, Manoj Mandake, Sandhya Jadhav				and Waste Management

Publication Details (Conferences)

S. No	Document Details	Authors	Year	Conference Details	ISBN	Organised by
1.	Prediction of Rate Constant of Photocatalytic Degradation of Pharmaceutical Pollutants by utilizing Artificial Intelligence based Genetic Programming Formalism	Makarand Naniwadekar, Shishir Tiwary, Sanjay P. Kamble, Sanjeev S. Tambe	2017	International Conference on Sustainable Development for Energy and Environment, 1, 11	ISBN 978-981-15-4638-9	NCL, Pune
2	Prediction of cetane number of biofuels using artificial intelligence based models	Makarand Naniwadekar, Shishir Tiwary Sanjeev S. Tambe	2017	NexGen Technologies for Mining and Fuel Industries 1(1), 617-626	ISBN 978-93-85926-40-2	CSIR-Central Institute of Mining and Fuel Research, Dhanbad, India.
3	Production and Experimental	Makarand Naniwadekar, Shishir Tiwary	2021	WATER, ENERGY &	ISBN: 978-81-	ISET Research

	Investigation of Ethanol from Sugar Base	Sanjeev S. Tambe		ENVIRONMENT [WEECON 2021]	954872-4-0	India in association with IEI Vietnam
4	Feasibility Study Of Biodiesel Production By Transesterification Of Selected Variety Of Oils (Waste Cooking Oil)	Vrashali S Kalyani, Makarand Naniwadekar, Deepak Nighot	2024	IJTE Journal by ISTE	ISSN 0971-3034	AISSMS COE PUNE and ISTE New Delhi

PhD / ME / BE Student Guided for Project

Level	Ph.D.	M.E. (PG)	B.E. (UG)
No. of Student guided	**-**	4	55

Professional Memberships

Professional Body	Level (National/ International)	Type (Fellow/Life/Annual)	Membership No.
SESI	International	Life	LM/2505/2021
IIChE	International	Life	LM-26474
ISTE	International	Life	LM- 40748
AMIE	National	Associate Member	AM092859-6

Patents / IPR Filed / Granted

S. No	Investigator Details	Title	Year	Status (Filed/Granted)	Details

1	1.Dr. Santosh Madhav Walke 2. Mr. Manojkumar Bhimrao Mandake 3.Dr. Makarand Naniwadekar 4.Mr. Ganesh N Patil	MONITORED CHEMICAL DISPENSING SYSTEM	2022	Granted	Design No: 370981-001 Journal No: 51/2022
2	Shashikant Athawale, Makarand Naniwadekar, Kavita Moholkar, Archana Kale,Revati Wahul	SMART PLASTIC WASTE MANAGEMENT DEVICE	2023	Granted	Design No: 6306753 Version: 14-2023, Class:09 Filed on: 01/09/2023
3	1. Dr Ravi Tapre 3.Dr. Makarand Yashavant Naniwadekar 3.Prof Manoj Mandake. 4.Dr Santosh Walke	SOLAR WATER DIATILLATION SYSTEM	2023	Filed	Design No: 370981-001 Design Class: 23-99 Filed on: 27/09/2022
4	1.Dr Akshay Mangavade 2. Dr Ravi Tapre 3.Dr. Makarand Yashavant Naniwadekar 4.Dr Santosh Walke 5.Prof Manoj Mandake.	BIO-SENSOR DEVICE FOR DETECTING TOXIC CHEMICALS IN WATER BODIES	2024	Filed	Design No: 395856-001 Filed on 23/09/2023

Books Published

S. No	Title	Name of the Publisher	ISBN/ISSN Number
1	Fluid Mechanics Engineering (First Edition)	AGPH Books	ISBN: 978-93-95468-85-5
2	Introduction to Nanotechnology	Alpha International Publication	ISBN: 978-93-95978-05-7

Research Grants Received

S. No	Program	Duration	Funding Agency	Grant Amount
1	Removal of SOx in flue gas using ammonia	June 2024 to July 2025	Reva Process Technologies	Rs 50000

Details of Worshop / STTP / FDP / Seminar / Conferences Organized

S. No	Title	Type	Duration	Level (State/National/ International)	Sponsoring Agency
01	Environment and Green Technology for Sustainable Development	Organizing Committee	January 18-19, 2019	National Seminar	Chem. & Civil Engg. Dept., AISSMSCOE
02	Advances in Chemical Reactor Design	Organizing Committee	February 27-28, 2017	National Seminar	Dept. of Chemical Engg, AISSMSCOE, Pune
03	Water Management in India	Organizing Committee	May 29, 2017	Indo-German International Conference	Dept. of Chemical and Civil Engg, AISSMSCOE, Pune

04	Intensification of Chemical Processing using Novel Reactors	Organizing Committee	9-10 & 22 Jan 2015	State Level Seminar	AISSMS COE and SPPU Pune
05	Advances in Heat Transfer	Organizing Committee	28-29 Feb 2012	National Seminar	AISSMS COE and SPPU Pune
06	5th National Conference on Innovation and Technology (NCIET - 2025)	Review Committee	08-09 April, 2025	National Conference on Innovation and Technology	AISSMS COE PUNE and ISTE

Contribution as Resource Person

S. No.	Place/ Organization	Topic	Level(National/Int/ State/Regional)	Date
1	Srijan Pune	DIPEX - 2013	State Level Project Competition	April 2013
2	Srijan Pune	DIPEX - 2017	State Level Project Competition	March 2017
3	Institution of Engineers (I) Pune	33rd National Convention	National level Conference	September 2017
4	Vishwakarma Institute of Technology (VIT), Pune, organized by the Dept. of Chemical Engg., VIT, Pune.	National Workshop on Artificial Neural Network	National Workshop	19th Sept, 2020

5	National Chemical Laboratory Pune	Training on- Artificial Intelligence basics	Regional	July 2019
6	Informatics Publishing Ltd., Karnataka, India	Journal of Mines, Metals and Fuels as Reviewer	International	Sept 2024

Details of Worshop / STTP / FDP / Conferences/Trainings Attended

S. N	Title	Type	Duration	Organizer	Sponsoring Agency
1	Mathematics: A Computational Approach	Teachers Training	15/06/2026 to 19/06/2026	NITTTR Bhopal, Pune Extention center	COEP Pune
2	Outcome Based Education and Curriculum	Teachers Training	22/09/2025 To 26/09/2025	NITTTR Bhopal, Pune Extention center	AISSMS COE PUNE
3	One week STTP on Project Based Learning	STTP	21/02/2022 to 26/02/2022	AISSMS COE PUNE	BoS E & TCSPPU and ISTE New Delhi
4	Recent Trends in Green Technology and Materials	STTP	20/12/2021 to 24/12/2021	SCOE Pune	SCOE Pune
5	Machine Learning to Deep Learning: Trends and Challenges	STTP	13/12/2021 to 18/12/2021	MBPIT Vallabhnagar-GUJCOST & IE (I) Gujarat	MBPIT Vallabhnagar-GUJCOST & IE (I) Gujarat
6	ORIENTATION PROGRAM	STTP	27/08/2021 to 28/08/2021	AIChE Students Chapter, AISSMS COE	AIChE Students Chapter, AISSMS COE
7	Application Oriented Advanced Functional Nanocomposites	STTP	26/07/2021 to 30/07/2021	SCOE Pune	SCOE Pune

8	Foregrounding the Spectrum of Character Building in Modern Human Life	STTP	25/06/2021 to 03/07/2021	BITS Hydrabad	BITS Hydrabad
9	Augment Reality & Virtual Reality	STTP	21/06/2021 to 25/06/2021	IEI & ISTE New Delhi	AISSMS COE & IEEE students chapter
10	Making Teaching - Learning Process Effective	STTP	20/12/1999 to 25/12/1999	ISTE Chapter	Engineering Education Foundation, Pune
11	Promoting Quality Culture in Technical Institutions	STTP	25/05/2020 to 29/05/2020.	AISSMS College of Engg, Pune	AISSMSCOE, Pune-1
12	Nanostuctured Materials in Catalysis	Workshop	25/03/2019 to 29/03/2019	SCOE, Pune-41	SCOE, Pune-41
13	Vision-Mission-PEO-PSO-PO-CO: Framing, Mapping, Assessment and Attainment	FDP	10/06/2019 to 15/06/2019	AISSMS College of Engg, Pune	ISTE
14	Mission 10X	Workshop	21/10/2008 to 25/10/2008	Wipro Technology	ISTE
15	Applications of Novel Artificial Intelligence and Machine Learning Techniques for Chemical and Petro-Chemical Industries	Workshop	28/12/2009 to 02/01/2010	C-DAC and MIT Pune	DST-SERC School
16	Recent Advances in Chemical Process Control	STTP	16/05/2011 to 28/05/2011	SCOE Pune	AICTE
17	Data Science	FDP	17/06/2019 to 22/06/2019	AISSMS COE Pune	MHRD and Shivaji University
18	Chemical Engineering Laboratory	Workshop	29/05/2009 to 31/05/2009	ICT Mumbai	ICT Mumbai under UGC Networking Resource Center
19	Modelling and Simulation of Complex Systems	Workshop	07/01/2016 to 09/01/2016	Venture Center Pune	Venture Center Pune

20	Process Intensification of Chemical Processing Applications	Work shop	28/01/2011 to 30/01/2011	ICT Mumbai	ICT Mumbai under UGC Networking Resource Center
21	Applications of MATLAB and Simulink for Engineers	Work shop	03/06/ 2013 to 07/06/2013	Department of Mechanical Engineering, COEP Pune	COEP Pune
22	Sustainable Development in Chemical Processes	FDP	21/05/2020 to 23/05/2020	KK Wagh College of Engineering, Nashik	KK Wagh Edu. Soc. Nashik
23	Advanced teaching tools Techniques and Methodologies for Outcome Based Education	FDP	01/06/2020 to 05/06/2020	AISSMS COE Pune	Centre of Excellence in Teaching Learning

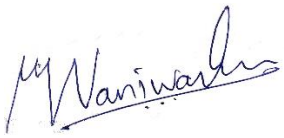
Major Professional Responsibilities Handled

S. No.	Role and Responsibilities
1	Academic Coordinator- Department Advisory Committee
2	PG Coordinator
3	Head- Department of Chemical Engineering
4	Head- Cultural Gymkhana
5	Exam Coordinator
6	NBA Coordinator
7	NAAC Criteria I Coordinator
8	GFM TE Chemical
9	Alumni Coordinator
10	IIChE Students' Chapter Coordinator
11	Staff Advisor- Chemical Engineering Students Association (CHESA)

Honors & Awards Received

S. No.	Awards
1	Research Supervisor – PG and PhD
2	Honored as “Chartered Engineer [India]” by The Institution of Engineers (I) in Chemical Engineering Division
3	Received award of excellence from the All India Shri Shivaji Society on Shahujayanti-2019 on 26/6/2019 for the award of PhD. in Chemical Engineering from SPPU.

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



Dr. M Y Naniwadekar

(Name with Signature)