Shyam Prakashrao Tekade
B.E., M.Tech., Ph.D. (Chemical Engineering)
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Professional Profile

Currently working as an **Associate Professor** in the Department of Chemical Engineering, and Dean – Internal Quality Assurance (IQA), at Gharda Institute of Technology, Lavel, Dist. Ratnagiri, Maharashtra, India. Joined this Institute on **27th July 2013.**

Worked as **Head of the Department and NBA Program Coordinator** of Chemical Engineering at Gharda Institute of Technology, Lavel from November 2021 to June 2024.

Successfully coordinated the **Chemical Process Safety Course** for industry professionals in association with **Gharda Chemicals Ltd.** and the **Directorate of Industrial Safety and Health, Maharashtra State (2020-21).**

Successfully organised **three AICTE-ISTE sponsored Refresher/Induction programs** on Computer Aided Software for Process Intensification (Grant Received: 3 Lakh), February to May 2021.

Successfully established the **'Advanced Reactive System Screening Tool's Laboratory'** through the funding from 14 various industries in Lote MIDC (Total funding received for creating the laboratory: 42.5 Lakh), 2021-22.

Resource person for the post-graduate diploma course on Process Safety Management conducted by Shivaji University, Kolhapur (2025-26, 2024-25).

Successfully co-ordinated (worked as convener and quiz master) the Dr. K. H. Gharda Memorial National Level Quiz 2025 at Gharda Institute of Technology Lavel

Worked as **Senior Supervisor of Mumbai University Examinations** in May-June 2021 (Online Examinations) and November-December 2018.

Worked as **Head of the Department**, Chemical Engineering at Gharda Institute of Technology, Lavel from January to July 2016.

Worked as the **Institute coordinator** of **Students Feedback** for 4 years (2015-2019) and initiated an **online student's feedback system** at Gharda Institute of Technology, Lavel.

Worked as a **Lecturer/Assistant Professor** between **August 2008 to July 2013** at Department of Chemical Engineering, Anuradha Engineering College, Chikhli, District-Buldana, Maharashtra, India.

Experience

14+ years of teaching experience for **Under-Graduate** Chemical Engineering Program. Taught important courses of Chemical Engineering such as Chemical Reaction Engineering, Process Calculations, Process Dynamics and Control, Fluid Flow Operations, Transport Phenomena, Instrumentation and Control, etc.

Education

Examination/Degree	Board/University	Year	%	Class
PhD in Chemical Engineering	Visvesvaraya National Institute of Technology Nagpur	2018	NA	NA
M. Tech. Chemical Engineering	Anuradha Engineering College Chikhli/ SGBAU Amravati	2011	74	First Class/First Merit at University
B. E. Chemical Engineering	KKWIEER Nashik/ Pune University	2008	69	Distinction
HSC (12th)	Smt. Sitabai Sangai Junior College Anjangaon (Surji)/ Maharashtra State Board	2004	76	Distinction
SSC (10th)	Smt. Sitabai Sangai Highschool Anjangaon (Surji)/ Maharashtra State Board	2002	76	Distinction

Doctoral Degree Details

Ph.D. in **Chemical Engineering** (30 August 2018) from **V**isveswaraya **N**ational **I**nstitute of **T**echnology (**VNIT**), Nagpur

Title of the Thesis: Hydrogen generation by water splitting reaction using aluminum in the annular and batch reactor.

Supervisor: Dr. D. Z. Shende
Associate Professor
Department of Chemical Engineering
Visvesvaraya National Institute of Technology (VNIT), Nagpur

Research Profile

Total Number of Publications: **16**
Prominent Publishing Journals: **Bioresource Technology, International Journal of Hydrogen Energy, Science of the Total Environment, Journal of Environmental Management, Chemical Engineering Communications, International Journal of Chemical Reactor Engineering**

Total Citations to date: **703** ***(Scopus)*****, 813** ***(Google Scholar)***
Scopus H-index: **13**
I -10 Index: **14**

Reviewer for the Journals: International Journal of Hydrogen Energy (Elsevier), Corrosion Science (Elsevier), Energy Storage (Wiley).

Research Areas

Reaction Kinetics, Hydrogen generation, Pyrolysis of waste plastics and biomass, Reactions under the annular reactor

Publications

1. **Shyam P. Tekade**, Prashant P. Gugale, Mitesh L. Gohil, Sandip H. Gharat, Trilok Patil, Parmesh Kumar Chaudhari, Dipesh S. Patle, Ashish N. Sawarkar, **(2025)**. 'Pyrolysis of waste polyethylene under vacuum using zinc oxide', **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, (SCI, IF: 3.447)**, doi: https://doi.org/10.1080/15567036.2020.1856976.
2. **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, (2024), Sustainable Generation of Hydrogen Using Aluminum Water Reaction Activated by Room Temperature Liquid Metal Gallium, AIChE Annual Meeting California, Conference Proceedings 2024. EID: 2-s2.0-105003723601.
3. Sanjay Singh, Ankita Tagade, Ashish Verma, Ajay Sharma, **Shyam P. Tekade**, Ashish N. Sawarkar, Insights into kinetic and thermodynamic analyses of co-pyrolysis of wheat straw and plastic waste via thermogravimetric analysis, **Bioresource Technology (SCI, IF:9.642)**, 356, 127332, 2022. doi: https://doi.org/10.1016/j.biortech.2022.127332.
4. Ashish N. Sawarkar, Nikhil Kirti, Ankita Tagade, **Shyam P. Tekade,** Bioethanol from various types of banana waste, **Bioresource Technology Reports (Scopus, CS: 3.8),** 18, 101092, 2022. doi: https://doi.org/10.1016/j.biteb.2022.101092.
5. Nikhil Kirti, **Shyam P. Tekade**, Ankita Tagade, Ashish N. Sawarkar, **(2022)**. 'Pyrolysis of pigeon pea (Cajanus cajan) stalk: Kinetics and thermodynamics analysis of degradation stages via isoconversional and master plot methods', **Bioresource Technolog (SCI, IF:9.642)**, 347, 126440.doi: https://doi.org/10.1016/j.biortech.2021.126440.
6. Rajnish Kumar Singh, Trilok Patil, Deeksha Pandey, **Shyam P. Tekade**, Ashish N. Sawarkar, **(2022)**.'Co-pyrolysis of banana agro-waste and petroleum coke: kinetics, reaction mechanism and thermodynamic analysis', **Journal of Environmental Management (SCI, IF:6.789)**, 301, 113854. doi: https://doi.org/10.1016/j.jenvman.2021.113854.
7. Sanjay Singh, Trilok Patil, **Shyam P. Tekade**, Manoj B. Gawande, Ashish N. Sawarkar, **(2021)**. 'Studies on individual pyrolysis and of co-pyrolysis of corn cob and polyethylene: thermal degradation behaviour, possible synergism, kinetics and thermodynamic analysis', **Science of the Total Environment (SCI, IF: 7.963)**, 783, 147004. doi: https://doi.org/10.1016/j.scitotenv.2021.147004.
8. **Shyam P. Tekade**, Gaurav Jadhav, Sunny Kalekar, Amit Pednekar, Diwakar Shende, Kailas Wasewar, Ashish Sawarkar **(2021)**. 'Utilization of human urine and waste aluminum for hydrogen generation', **Biresource Technology Reports (Scopus, CS: 3.8)**, 15, 100821. doi: https://doi.org/10.1016/j.biteb.2021.100821.
9. Amit S. Pednekar, **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, **(2021)**.

'Intensification of Hydrogen Generation through Liquid Metal Gallium in Water Splitting Reaction Using Aluminum in Presence of Potassium Hydroxide', **Chemical Engineering Communications (SCI, IF: 2.494),** 208, 1, doi: https://doi.org/10.1080/00986445.2019.1694915.

10. Rajnish Kumar Singh, Trilok Patil, Ashish Verma, **Shyam P. Tekade,** Ashish N.Sawarkar, **(2021)**. 'Insights into kinetics, reaction mechanism, and thermodynamic analysis of pyrolysis of rice straw from rice bowl of India', **Bioresource Technology Reports**, 13, 100639, doi: https://doi.org/10.1016/j.biteb.2021.100639.
11. Zavin R. Gajera, Komal Verma, **Shyam P. Tekade**, Ashish N. Sawarkar, **(2020)**. 'Kinetics of co-gasification of rice husk biomass and high sulphur petroleum coke with oxygen as gasifying medium via TGA', **Bioresource Technology Reports (Scopus, CS: 3.8)**, 11, 100479. doi: https://doi.org/10.1016/j.biteb.2020.100479.
12. **Shyam Tekade**, Amit Pednekar, Gaurav Jadhav, Sunny Kalekar, Diwakar Shende, Kailas Wasewar, (2020). 'Hydrogen Generation through Water Splitting Reaction Using Waste Aluminum in Presence of Gallium', **International Journal of Hydrogen Energy, (SCI, IF: 5.816)**, 45, 44, 23954-23965, doi: https://doi.org/10.1016/j.ijhydene.2019.09.026.
13. **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, **(2019)**. 'Hydrogen generation in an annular micro-reactor: An experimental investigation of water splitting reaction using aluminum in presence of potassium hydroxide', **International Journal of Chemical Reactor Engineering**, 17, 2, 2019. DOI: https://doi.org/10.1515/ijcre-2018-0104.
14. **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, **(2019)**. 'Potassium Hydroxide Activated Hydrogen Generation Using Aluminum in Water Splitting Reaction', **International Journal of Chemical Reactor Engineering**, 17, 3. doi: https://doi.org/10.1515/ijcre-2018-0193.
15. **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, **(2018)**. 'Hydrogen generation in an annular micro-reactor: An experimental investigation and reaction modelling by Shrinking Core Model (SCM)', **International Journal of Chemical Reactor Engineering**, 16, 7. doi**:** https://doi.org/10.1515/ijcre-2017-0202.
16. **Shyam P. Tekade**, Diwakar Z. Shende, Kailas L. Wasewar, **(2018)**. 'Hydrogen Generation in water splitting using aluminum: Effect of NaOH concentration and reaction modelling using SCM', **International Journal of Chemical Reactor Engineering**, 16, 7, 2018. DOI: https://doi.org/10.1515/ijcre-2017-0250.
17. Sudesh Ayare, Sarjerao Doltade, **Shyam Tekade**, A Review on Current Scenario of Energy, Nuclear Reactor Technology and Cold Trap, Clean Technologies and Environmental Policy, Springer Nature, **26**, 927–941 (2024).

Patent

Filled a design patent on 'V-notch Perforated Twisted Tape Heat Exchanger', Application Number: 414291-001.

Achievements/Awards

Received the **grant** in the tune of **Rs. 3 Lakh** from **AICTE-ISTE** for conducting the three online **Induction/Refresher programme** on the topic ‘Computer Aided Softwarefor Process Intensification’ (Feb - May 2021).

Received ISTE Maharashtra-Goa section award 2022 for ‘**Best Innovative Project’**

First Merit in M.Tech Chemical Engineering in the year 2011, of **Sant Gadge Baba Amaravati University, Amaravati**.

Received **Certificate of Appreciation from NPTEL**, Swayam for mentoring the students for the course ‘Aspen Plus Simulation Software - A Basic Course for Beginners’.

Qualified the Graduate Aptitude Test in Engineering (**GATE**) 2011, with All India Rank 2070.

Awards won by the project students in four consecutive versions of SChemcon (2020, 2019, 2018 and 2017). SChemcon is the prestigious event conducted by IIChE and finds participants across India, including students from IIT's and NIT's.

Project students, Gaurav Jadhav and Sunny Kalekar (BE, 2019-20) received 'Chemical Weekly Prize for Best Research Paper Published in a High Impact Factor Journal by an Undergraduate Chemical Engineering Student' by IIChE.

Project students have received VICAL awards for two consecutive years (2020 and 2019).

Awarded with **Dr. J. D. Dhake gold medal** for the first topper in M. Tech. Chemical Engineering in the year 2011, from Anuradha Engineering College, Chikhli.

Received **Second Prize** in **paper presentation** at the national level technical event ‘Azeotropy 2K11’, held at **Indian Institute of Technology, Powai, Bombay**.

Received **First Prize** in **model making** competition, ‘Chem-o-car’ at the national level technical event ‘Chemozale 08’ held at **Nirma University, Ahmedabad**.

Received **Third Prize** in **paper presentation** at the national level technical event ‘Chemfest 08’ held at Karmaveer Kakasaheb Wagh Institute of Engineering Education and Research, Nashik.

Workshops/STTPs/NPTEL Courses

Sr. No.	Title	Name of the Institute	Mon & Year	Remarks
1	Green chemistry, sustainable agriculture and advances in food processing systems	Shri Sitarambhai Naranji Patel Institute of Technology, Umrakh -Bardoli	Feb-2025 (17 – 22 Feb)	The AICTE Training and Learning (ATAL) Academy
3	Aspen Plus Simulation Software - A Basic Course for Beginners	Online, Conducted by Indian Institute of Technology, Madras	Jan – April 2024	NPTEL – AICTE Faculty Development Program
2	Chemical Reaction Engineering II	Online, Conducted by Indian Institute of Technology, Bombay	Jan – April 2024	NPTEL Course
3	6th National Workshop on Advances in Explosives and Propellants	Visvesvaraya National Institute of Technology Nagpur	8-12 May 2023	DRDO and IIChE Sponsored Workshop
4	Accreditation and Outcome Based Learning	Online, Conducted by Indian Institute of Technology, Kharagpur	Aug – Oct 2023	NPTEL – AICTE Faculty Development Program
5	Equipment Design: Mechanical Aspects	Online, Conducted by Indian Institute of Technology, Roorki	Jan – Feb 2020	NPTEL Course
6	Outcome Based Pedagogic Principles for Effective Teaching	Online, Conducted by Indian Institute of Technology, Kharagpur	Jan – Feb 2017	NPTEL Course
7	Microreactors: Mathematical Modelling of Hydrodynamics, Heat and Mass Transfer, Design and Fabrication	Indian Institute of Technology, Indore	Dec. 2016	Two Week GIAN Course
8	Ansys Fluent (CFD) Software Training	Gharda Institute of Technology, Lavel	Nov. 2016	One week STTP
9	Adiabatic Two Phase Flow and Flow Boiling in Microchannel	Conducted by IIT Kharagpur, through ICT	Sep-Oct 2016	NPTEL Course

10	Process Intensification	Institute of Chemical Technology, Mumbai	Sep. 2016	2 Day Workshop
11	Recent Advances in Polymer Technology and its Applications	Gharda Institute of Technology, Lavel	Aug. 2016	GSRF Symposium
12	Process Intensification	National Institute of Technology, Warangal	Dec. 2015	3 Days Workshop
13	Energy Crisis and Role of Energy Management and Renewables	Gharda Institute of Technology, Lavel	July. 2015	3 Days Worksho p
14	Challenges to Optimize the Processes in Industry	Maharashtra Institute of Technology, Pune	Feb. 2015	2 Days National Seminar

Extra-Curricular Activities

Worked as a Convener for Dr. K. H. Gharda Memorial National Quiz 2025 on 16 September 2025 at Gharda Institute of Technology Lavel.

Co-ordinated the STTP on Ansys Fluent (CFD) Software Training held on 9-11 Nov. 2017 atGharda Institute of Technology, Lavel.

Participated in the competitions like **Paper Presentation** and **Design** of model based on energy transformation, in National Level Technical event 'Azeotropy 2K11' held at Indian Institute of Technology, Powai, Bombay.

Participated in the competitions like **Paper Presentation** and **Design** of models based on energy transformation and Adsorption, in National Level Technical event 'Azeotropy 2K10' held at Indian Institute of Technology, Powai, Bombay.

Attended a **workshop** on 'Eco-friendly Techniques in Chemical engineering' in January 2010 at Anuradha Engineering College, Chikhli.

Worked as one of the **event coordinators** of 'CHEMCON 09' a National level Paper and poster presentation held at Department of Chemical Engineering, Anuradha Engineering College, Chikhli.

Attended a **workshop** on 'Advances in Process Modeling and Simulation' in September 2009 at Anuradha Engineering College, Chikhli.

Participated in the competitions like **Paper Presentation** and **Design** of a model called Chem-o-Car in National Level Technical event 'Chemozale 08' held at Nirma University, Ahmadabad.

Participated in National Level Technical **Paper Presentation** competition 'Chemfest 08' held at Karmaveer Kakasaheb wagh Institute of Engineering Education and research, Nashik.

Presented a Project in National Level technical project exhibition 'Karmaveer Expo 08' at Karmaveer Kakasaheb Wagh Institute of Engineering Education and research, Nashik.

Attended and participated in **Rocket Making Workshop** in National Level Technical Event 'Perception 08' held at Visweswaraya Institute of Information Technology, Pune

References

1. **Dr. Ashish N. Sawarkar**
   Associate Professor
   Department of Chemical Engineering
   Motilal Nehru National Institute of Technology, Prayagraj, Uttar Pradesh, India -
   Email: ansawarkar@mnnit.ac.in
   Contact Number: 8795291646

2. **Dr. Diwakar Z. Shende**
   Associate Professor
   Department of Chemical Engineering
   Visvesvaraya National Institute of Technology, Nagpur, Maharashtra, India -
   Email: dzshende@che.vnit.ac.in
   Contact Number: 9422390841

3. **Dr. Kailas Wasewar**
   Professor and HOD
   Department of Chemical Engineering
   Visvesvaraya National Institute of Technology, Nagpur, Maharashtra, India -
   Email: klwasewar@che.vnit.ac.in
   Contact Number: 9422558423

Personal details

Date of Birth: **11th August 1987**
Languages Known: Marathi, English, and Hindi
Marital Status: Married
Father's Name: Mr. Prakash Govind Tekade
Mother's Name: Mrs. Nalini Prakash Tekade
Spouse Name: Mrs. Jyoti Shyam Tekade

Declaration

The information provided in the curriculum vitae is true to the best of my knowledge.

Sincerely,
Shyam P. Tekade