



Ajeenkya D Y Patil University

D Y Patil Knowledge City, Charholi Bk. Via Lohegaon, Pune – 412 105 (MH) INDIA

FACULTY PROFILE



NAME: Dr. Shankar M Khade

DESIGNATION: Associate Professor & Program Lead

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QUALIFICATION: M. Tech, PhD

BIOGRAPHY: Dr. Khade earned his Ph.D. in Biochemical Engineering from Prestigious IIT, Varanasi in 2018. His expertise lies in Microbial Biochemicals, Bioenergy (2G and 3G biofuels), and bioremediation. As an Editorial Board Member for the 'American Journal of Chemical and Biochemical Engineering' and a Reviewer for 'Preparative Biochemistry and Biotechnology' and 'Signa Vitae', he actively contributes to the academic community. He has authored 14 peer-reviewed research articles in reputed SCI/Scopus journals. He served as an Editor for the three published books as 'Biomass and Bioenergy Solutions for Climate Change Mitigation and Sustainability' (2022); 'Future of AI in Biomedicine and Biotechnology' (2024) & 'Synthesizing and Characterizing Plant-Mediated Biocompatible Metal Nanoparticles' (2024) with IGI Global, USA, and for an ongoing book 'Sustainable Energy Solutions from Waste Algal Biomass', Taylor & Francis. He has published several book chapters in various reputed international books. He is having total 6.5 years of Teaching and Industrial experience.

Students Project Guided: **01 (Ongoing)**

CORE COMPETENCY AREAS:

- **Bioprocess Technology**
- **Bioenergy**
- **Drug delivery**

PUBLICATIONS:

PATENT

1. Debashis Dutta, Prashant kumar, Ajay Singh, Dheeraj Chitara, Sweta Rai, **Shankar Mukundrao Khade**, Jyoti Srivastava. (2024). Protein Fermenting and Purification Apparatus. (Design patent).

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1. **Shankar Mukundrao Khade**. (2022). Exploitation Of Pineapple Waste Biomass to Produce Green-Tea Powder.

JOURNALS (PUBLISHED)

1. Saif, R., Kumar, S., Sahoo, P. K., Dahiya, S., **Khade, S. M.**, & Behera, B. (2025). Vitamin Fortification Techniques and Analyses in Staple Food: Strategic Method to Overcome Micronutrient Deficiencies. *Current Food Science and Technology Reports*, 3(1), 1-11.
2. D. Dutta, Prashant kumar, Ajay S, **Shankar K.** (2024). Bioprocess Strategies for Enhanced Performance in Single-Use Bioreactors for Biomolecule Synthesis: A Biokinetic approach. *Food Bioengineering*.
3. Varpe, A. A., Shinde, S., **Khade, S. M.**, et al. (2024). Recent advances on scaffolds: A comprehensive review of materials, fabrication techniques, and applications. *Nano LIFE*.

4. **Khade, S. M.,** Yabaji, S. M., Srivastava, J. (2020). An update on COVID-19: SARS-CoV-2 life cycle, immunopathology, and BCG vaccination. *Preparative Biochemistry and Biotechnology*, 51(1-9), 3.141.
5. Tripathi A D, Joshi T R, Srivastava S K, Darani K K, **Khade S M** & Srivastava J. (2019). Effect of nutritional supplements on bio-plastics (PHB) production utilizing sugar refinery waste with potential application in food packaging. *Preparative biochemistry and biotechnology*.
6. **Khade, S. M.,** Srivastava, S. K., et al. (2018). Optimization of clinical uricase production by *Bacillus cereus* under submerged fermentation, its purification and structure characterization. *Process Biochemistry*, 75, 49-58, 4.88.
7. **Khade, S. M.,** Srivastava, S. K., et al. (2016). Production of clinically efficient. Uricase enzyme Induced from different strains of *Pseudomonas aeruginosa* under Submerged Fermentations and their Kinetic properties. *Biocatalysis and Agricultural Biotechnology*. 8(139-145).
8. **Khade, S. M.,** Srivastava, S. K. (2016). Effect of surfactants and inducers on increased uricase production under submerged fermentations (SMF) by *Bacillus cereus*. *Preparative biochemistry and biotechnology*. 47(81-85).
9. **Khade S M,** Srivastava S K. (2015). Uricase and its clinical applications: a review. *International Journal of Biological and Medical Research*. 6(3) 5211-5215.
10. **Khade, S. M.,** Behera B, Sagiri S S, Pal K., et al (2014). Gelatin-PEG based metronidazole loaded vaginal delivery systems: preparation, characterization and in vitro antimicrobial efficiency. *Iranian Polymer Journal*. 23 (171-184).
11. Singh V K, Sagiri S S, Pal K, **Khade S M,** et al. (2014). Gelatin-Carbohydrate phase separated Hydrogels as Bioactive carriers in Vaginal delivery: Preparation and physical characterizations. *Journal of Applied Polymer Sciences*. 131.
12. Singh V K, Sagiri S S, **Khade S M,** Bhattacharya M K, Pal K. (2014). Development and characterization of gelatin-polysaccharide based phase-separated hydrogels for prevention of sexually transmitted diseases. *Journal of Applied Polymer Sciences*. 132.
13. Srivastava J, **Khade S. M.** (2015) Assessment of physical damage of cryopreserved RBCs during thawing by impedance spectroscopy. *International Journal of Medical Science and Public Health*:1;4(8):1121-5

Special Issues (Guest Editors):

1. Debashis Dutta, Shankar Khade, Unlocking the Potential of Microbial Oil Production: A Sustainable Solution for Edible Oil Production, *Applied Food Biotechnology* (Ongoing).
2. Debashis Dutta, Shankar Khade, Prashant kumar, "Harnessing Bioactive Compounds from Food Waste: Sustainable Extraction Strategies and Health Applications." *Current Nutrition and Food Science* (Ongoing)

Books (Edited):

1. Ashok Rathoure, **Shankar M Khade**, Biomass and Bioenergy Solutions for Climate Change Mitigation and Sustainability (2022), IGI Global, USA.
2. **Shankar M Khade**, Raj Gaurav Mishra, Future of AI in Biomedicine and Biotechnology (2024), IGI Global, USA.
3. Susanta Das, **Shankar M Khade**, Debanjali Roy, Khushbu Trivedi, Synthesizing and Characterizing Plant-Mediated Biocompatible Metal Nanoparticles (2024), IGI Global, USA.
4. Debashish Dutta, Prashant kumar, **Shankar Khade**, Sustainable Energy Solutions from Waste Algal Biomass, Taylor & Francis (Ongoing).

Book Chapters:

1. **Shankar Khade**, S K Srivastava, *genetically modified microbes for bioremediation of oil spills in marine environment* (2016), IK International.
2. **Shankar Khade**, S K Srivastava, Demethylation of arsenic and nickel from tannery industries (2017), IGI Global, USA.
3. Abhishek Dutt Tripathi, Simmie Sebraien, Kamlesh Kumar Maurya, Suresh Kumar Srivastava, **Shankar Khade** and Kundan, Role of Polyhydroxyalkanoates (PHA- biodegradable Polymer) in Food Packaging, *Advanced Polymeric Systems*, (2020), Rivera publication.
4. **S M Khade**, S K Srivastava, L H Kamble, J Srivastava, *Food Enzymes: General Properties and Kinetics*, (2022), Springer.
5. Rupika Sinha, **S.M. Khade**, Sukhendra Singh, *Cellulase – A catalytic powerhouse for lignocellulosic waste valorization*, (2022), Springer.
6. Malad Mubarak, **Shankar Khade** et al., *AI applications in biotechnology and biomedical engineering*, (2024), IGI Global, USA.
7. Sakshi Kolpe, **Shankar Khade**, Shivraj Nile (2022). *Microalgae-based bioethanol*, IGI Global USA.
8. Bela Khiratkar, **Shankar Khade** (2022). *Biogas: Renewable Natural Gas*, IGI Global USA.

ACHIEVEMENTS/AWARDS/RECOGNITIONS:

- **GATE Fellowship (2011-13 & 2013-2018)**
- **ASRB-NET (2014)**
- **Editorial and Reviewer Roles:** Editorial Board Member of the American Journal of Chemical and Biochemical Engineering; Reviewer for several peer-reviewed journals.
- **Lifetime member** of Microbiologists Society, India
- **Second prize** in Inter-University poster presentation on 'Bioweapons' in YMIT, Nanded (2010).
- **Third prize** in best poster presentation in "International conference on Food Processing & Biotechnology (2015)" at BHU, Varanasi.
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SEMINARS / WORKSHOPS / CONFERENCES ATTENDED:

Sr. No	Workshop/Seminar/ FDP Name	Organization	Duration
1	Coordinated Workshop on Advances in Bioengineering Techniques	ADYPU, Pune	2025
2	Coordinated Workshop on Advances in Bioengineering Techniques	ADYPU, Pune	2024
3	Coordinated MOOC Course with Microbiologists Society, India on Biochemical Techniques in Industries	ADYPU-MBSI	2022, 2023, 2024
4	Presented research on uricase production optimization at ICBE 2016	AIChE-NTU, Singapore	2016
5	Shankar M. Khade, S K Srivastava 'Optimization of uricase production using Bacillus cereus by Taguchi DOE methodology' in 'Bioprocess India 2015'	IIT Madras	2015
6	Shankar M. Khade, S K Srivastava Production, purification, structural and functional characterization of uricase enzyme from Bacillus cereus in BESCON 2017	Netaji Subhash Chandra Institute of Technology, New Delhi	2017
4	Shankar M. Khade Attended International conference on Brainstorming meeting on Proteomics: Present and Future	CCMB, Hyderabad	2014

PROFESSIONAL BODY MEMBERSHIP

1. Life Time Member of **Society of Microbiology, India**