RESUME

Dr. Shankar Mukundrao Khade

Personnel Details

Date of Birth: **Jan 01,1988**
Gender: **Male**
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Official Address

Assistant Professor,
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Ajeenkya D Y Patil University, Pune
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Google Scholar:
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Publon: https://publons.com/researcher/3810321/dr-shankar-khade/

SUMMARY OF QUALIFICATIONS

Ph.D. in Biotechnology (2018)

The research was focused 1) The kinetics of production and scale up of uricase enzyme using optimized media In bioreactor by Bacillus cereus, 2) Purification and kinetic parameters of the efficient uricase, 3) pathway to regulate the uric acid concentration in Swiss albino mice, 4) In vivo applications of purified uricase in Uricase-deficient hyperuricemia mice, 5) Uricase regulates the uric acid concentration in the hyperuricemic mice.

ACADEMIC QUALIFICATIONS

PhD in Biotechnology from Indian Institute of Technology (BHU), Varanasi, India. **2013-2018**
M.Tech in Biotechnology from National Institute of Technology (NIT), Rourkela, India **2011-2013**
M.Sc. in Biotechnology from SRT Marathwada University, Nanded, India. **2009-2011**
B.Sc. in Biotechnology from SRT Marathwada University, Nanded, India **2006-2009**

PUBLICATIONS:

A] Research/Review Articles:

Sr. No.	Authors	Title of Publication	Year	Journal (Full name)	Issue, Volume, Page No(s).	Journal Impact Factor as per Thompson Reuters List	Status	Authorship Type
1	**Shankar M Khade,** Shivraj M Yabaji, Jyoti Srivastava	An update on COVID-19: SARS- CoV-2 Life cycle, Immunopathology, and BCG vaccination	2020	Preparative Biochemistry and Biotechnology	51(1-9)	2.16	Published	First & Corresponding
2	**S.M. Khade**, S.K. Srivastava, Krishan Kumar, Kedar Sharma, Arun Goyal, A.D. Tripathi	Optimization of clinical uricase production by Bacillus cereus under submerged fermentation, its purification and structure characterization	2018	Process Biochemistry	75(49-58)	3.75	Published	First

3	**Shankar Khade**, S K Srivastava, Abhishek Dutt Tripathi	Production of clinically efficient Uricase enzyme Induced from different strains of Pseudomonas aeruginosa under Submerged Fermentations and their Kinetic properties	2016	Biocatalysis and Agricultural Biotechnology	8(139-145)	0	Published	First
4	**Shankar Khade**, SK Srivastava	Effect of surfactants and inducers on increased uricase production under submerged fermentations (SMF) by Bacillus cereus	2016	Preparative Biochemistry and Biotechnology	47(81-85)	2.16	Published	First
5	**S.M. Khade**, B Behera, S S Sagiri, V K Singh, Thirugnanum, K Pal, S S Ray, D. K. Pradhan, M K Bhattacharya	Gelatin-PEG based metronidazole loaded vaginal delivery systems: preparation, characterization and in vitro antimicrobial efficiency	2014	Iranian Polymer Journal	23 (171-184)	1.9	Published	First
6	**Shankar Khade**, SK Srivastava	Uricase and its clinical applications: a review	2015	International Journal of Biological and Medical Research	6(3) 5211-5215	0	Published	First
7	Vinay Kumar Singh, Sai Sateesh Sagiri, Kunal Pal, **Shankar M. Khade**, Dillip K. Pradhan, Mrinal K. Bhattacharya	Gelatin-Carbohydrate phase separated Hydrogels as bioactive carriers in Vaginal delivery: Preparation and physical characterizations	2014	Journal of Applied Polymer Sciences	131	3.12	Published	Co-author
8	VK Singh, SS Sagiri, **SM Khade**, MK Bhattacharya, Kunal pal	Development and characterization of gelatin–polysaccharide-based phase- separated hydrogels for prevention of sexually transmitted diseases	2014	Journal of Applied Polymer Sciences	132	3.12	Published	Co-author
9	Abhishek Dutt Tripathi, Tek Raj Joshi, Suresh Kumar Srivastava, Kinaoush Khosravi Darani, **Shankar Khade** &Jyoti Srivastava	Effect of nutritional supplements on bioplastics (PHB) production utilizing sugar refinery waste with potential application in food packaging	2019	Preparative Biochemistry and Biotechnology	49 (6), 567-577	2.16	Published	Co-author
10	Srivastava J, **Khade S.**	Assessment of physical damage of cryopreserved RBCs during thawing by impedance spectroscopy	2015	International Journal of Medical Science and Public Health	4(8):1121	0	Published	Corresponding

B] Book:

Sr. No.	Editors	Title of Publication	Year	Name of Publisher	National/International	ISSN/ISBN No.	Status
1	Dr. Ashok Rathoure & **Dr. Shankar M Khade**	Biomass and Bioenergy Solutions for Climate Change Mitigation and Sustainability	2021-22	IGI Global, USA	International	9781668452691	Ongoing

C] Book chapters:

Sr. No.	Authors	Title of Publication	Year	Name of Publisher	Issue, Volume, Page No(s).	ISSN/ISBN No.	Status	National/International
1	**Shankar Khade**, S K Srivastava	Genetically modified microbes for bioremediation of oil spills in marine environment	2016	IK International.	276-292	9789385909603	Published	National
2	**Shankar Khade**, S K Srivastava	Demethylation of arsenic and nickel from tannery industries	2017	IGI Global publication	92-103	9781522541639	Published	National
3	Abhishek Dutt Tripathi, Simmie Sebstraien, 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	135-173	8038	Published	International
4	**S.M. Khade**, Rupika Sinha, Sukhendra Singh	Cellulase - A catalytic powerhouse for lignocellulosic waste valorization	2021	CRC Press	----	----	Under review	International

Post-PhD Total Experience (03 years, 07 months)

A] ACADEMIC EXPERIENCE (02 years, 07 months)

1. Assistant Professor, Department of Biotechnology, School of Engineering**,** **Ajeenkya D Y Patil University**, Pune, Maharashtra (4th September 2020 to till date)

2. Assistant Professor, Department of Biosciences, **Sri Sathya Sai University for Human Excellence**, Gulbarga, Karnataka (4th November 2019 to 29th August 2020)

3. Guest Faculty, Department of Biotechnology, **AMC College, Bangalore University**, Bangalore (12th August 2019 to 28th October 2019)

B] INDUSTRIAL EXPERIENCE (01 year)

Project Associate at **R&D, Bioprocess Division, Hindustan Petroleum Corporation Limited, Bangalore**, India. (April 2018 to April 2019)

Projects:

1. Pre-treatment of ligno-cellulosic biomass & 2G ethanol

2. Cellulase enzyme production using *Trichoderma harzianum* in 3L & 5L NBS fermenter.

3. Autotrophic, heterotrophic and mixotrophic cultivation of microalgae in photobioreactor to produce biodiesel.

PhD RESEARCH EXPERIENCE

July 2013 to July 2018: PhD. student with **Dr. S. K. Srivastava**, Professor & former Co-ordinator, at School of Biochemical Engineering, Indian Institute of Technology (IIT), BHU, Varanasi, India. (https://www.iitbhu.ac.in/dept/bce/people/sksrivastavabce).

Thesis Title: "Kinetic studies of uricase production from microbial source, its purification, characterization and applications for the treatment of gout disease**"**.

ACADMIC ACHIEVEMENTS / AWARDS / FELLOWSHIPS

1. Awarded by Ministry of Human Resource and Development as **GATE Fellow** from July 2013 to July 2018 (PhD) and **GATE Fellow** from July 2011 to July 2013 (M.Tech).
2. Qualified National level Graduate Aptitude Test in Engineering (**GATE-2011 & 13**) conducted by MHRD, Govt. of India.
3. Qualified **National Eligibility Test (NET)** for lectureship conducted by Agriculture Scientist Recruitment Board (ASRB), Govt. of India (2014).
4. **Second prize** in Inter-University poster presentation on 'Bioweapons' in YMIT, Nanded (2010).
5. **Third prize** in best poster presentation in "International conference on Food Processing & Biotechnology (2015)" at BHU, Varanasi.
6. **Brand Ambassador of India** for Bentham Science publication since December 2019.
7. Life Member of **Society of Microbiology, India**
8. **Editorial-Board Member** of a journal American journal of chemical and biochemical engineering
9. **Reviewer** of Signa Vitae journal
10. **Reviewer** of Preparative Biochemistry and Biotechnology journal

CONFERENCE PRESENTATIONS/WORKSHOPS

INTERNATIONAL PRESENTATIONS

1. **Shankar M. Khade**, S K Srivastava 'Optimization of uricase production using *Bacillus cereus* by Taguchi DOE methodology under submerged fermentations' in **'ICBE 2016', AIChE-NTU, Singapore.**

NATIONAL PRESENTATIONS

1. **Shankar M. Khade**, S K Srivastava 'Optimization of uricase production using *Bacillus cereus* by Taguchi DOE methodology' in '**Bioprocess India 2015', IIT-Madras.**

2. **Shankar M. Khade**, S K Srivastava Production, purification, structural and functional characterization of uricase enzyme from *Bacillus cereus* in **BESCON 2017** at **Netaji Subhash Chandra Institute of Technology, New Delhi**

3. **Shankar M. Khade**, S K Srivastava purification, structural and functional characterization of uricase enzyme from *Bacillus cereus* at **Association of Microbiologists in India (AMI 2017), at BBAU, Lucknow**.

4. **Shankar M. Khade** Attended International conference on **Brainstorming meeting on Proteomics: Present and Future 2014 at CCMB Hyderabad.**
5. **Shankar M. Khade,** Kunal Pal 'Gelatin based hydrogel for controlled drug delivery' in **'International Conference on Material Science 2013', Tripura University.**

6. Shankar M. Khade, S K Srivastava, A. D. Tripathi 'Optimization of uricase production using *Bacillus cereus* by Taguchi DOE methodology under submerged fermentations' in **"International conference on Food Processing & Biotechnology (2015)" at BHU, Varanasi.**

7. Shankar M. Khade Participated in workshop on protein purification by AKTA Prime organized at School of Biochemical Engineering, IIT (BHU), Varanasi in collaboration with GE Healthcare.

8. Shankar M. Khade Participated in AICTE sponsored seven days QIP (16 to 24thof June 2017) on "Advances on Bioprocess Engineering" at School of Biochemical Engineering, IIT (BHU), Varanasi.

9. Shankar M. Khade Participation in **Second Science Conclave: A Congregation of Nobel Laureates (2010)** at IIIT Allahabad.

10. Shankar M. Khade Participated in "Food processing and packaging" (2015) workshop organized

collaboratively by BHU and **Indian Institute of Packaging, New Delhi.**

11. Shankar M. Khade Participated in workshop on Assessment of Mycorrhizal Biodiversity (2010) at Swami Ramanand Teerth Marathwada University, Nanded.

SKILLS AND EXPERTISE

1. Bioprocess: Optimization and Validation of parameters by Taguchi DOE, Growth kinetics, scale-up, Bacterial and fungal fermentations, bioreactor, Yield, productivity, biomass study, KLa, substrate inhibition, Spore production & harvesting, downstream processing

2. Biochemistry: Protein purification by ion-exchange chromatography, size-exclusion chromatography, SDS PAGE, HPLC, GPC, Lyophilization, biocompatibility test, rancidity test of lipid

3. Enzymology: Isolation of microbial enzyme, protein quantification, enzyme assay, enzyme kinetics, isoelectric point determination, ammonium sulphate precipitation, enzyme optima, enzyme stability

4. Microscopy: light microscopy, fluorescence microscopy.

5. Mass spectrometry: Trypsin digestion and sample preparations from identified spots on SDS-PAGE.

6. Animal handling: Administration, sampling.

7. Drug delivery: composite polymer preparation, characterization, swelling kinetics, in vitro drug release kinetics, antimicrobial study

8. Biofuel: Pretreatment of lignocellulosic biomass, saccharification, ethanol fermentation, algae cultivation, optimization, wastewater treatment, solvent-solvent extraction, Transesterification,

9. Equipments and instruments: Bioreactor, HPLC, FPLC, GPC, GC-MS, FTIR, PARR Reactor, photobioreactor, lyophilizer, dissolution apparatus,

10. Computer proficiency and Bioinformatics: Qualitek software, Modeller tool, Sequence alignment tools, EndNote, Mendley, ImageJ, GraphPad Prism 5.0®, Origin (Data Analysis and Graphing Software), DALI server, Mega-7, Ramachandran plot, PsiPred server, Adobe Photoshop and MS office (Word, Power point, Excel).

REFERENCES

Prof. S K Srivastava

Professor & former

Coordinator, School of

Biochemical Engineering, IIT-Indian Institute of Technology

Dr. Kunal Pal

Associate. Professor

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National Institute of Technology

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