

Curriculum-vitae

1. **Name: Dr. Shikha**
2. **Designation:** Associate Professor
3. **Department:** Environmental Science
4. **Qualification:** M.Sc. Ph.D. (Microbiology), NET, JRF, RA-CSIR
5. **Teaching experience:** 14 years
6. **Post Doctoral Research experience:** 17 years
7. **Research Projects: One (Completed) Tenure= 13/02/2009-12/02/2012**
 - (a) Title of Project: Improvement of strain and optimization of laccase production from microbes
 - (b) Broad and specific fields: Microbial Bioremediation; Microbial enzyme technology
 - (c) Details of funding agency and amount of fund sanctioned (year wise, head, sub-head wise) Council of Science & Technology, U.P.; 6,30,857=00
8. **(a) Research Guided (Ph.D.): Degree awarded-03 (2009-14)**

Name of the student	Title of Ph.D. Thesis	Research guidance	Date of award
Jaspal Singh	A study on the stress response of N ₂ -fixing cyanobacterium <i>Nostoc muscorum</i> against organotin toxicity.	Co-supervisor	18/01/2010
Shiv Shankar	Laccase production from microbes and evaluation of its application for delignification and bleaching of pulp and paper mill effluent.	Supervisor	24/09/2013
Manjul Gupta	Development of vermicompost based soil formulation and evaluation of its potential for crop production in sodic soil	Supervisor	11/04/2014

- (b) Research Guided (Ph.D.): Continuing (2)**
(c) Research Guided (M.Sc.) dissertation: 45

9. **Membership of Academic and Administrative bodies:**
 - i. Member of the Departmental Research Committee (DRC) from 02/09/05-01/09/07 and 30/06/2016-29/05/18 of the Department of Environmental Science.
 - ii. Member of Board of Post Graduate Studies (BPGS) for the Department of Environmental Science from 20/10/05-19/10/08 and 14/02/2012-13/02/2015.
 - iii. Member of the School Board of the School for Environmental Science from 24/11/05-23/11/08 and 14/02/2012-13/02/2015.
 - iv. Member of the Academic Council of the University (BBAU) from 31/10/05-30/10/08.

- v. Member of Board of Management of the University (BBAU) from 06/05/2013-05/05/2016

10. **Awards:** Certificate of appreciation for being an outstanding academic and administrative professional on on 8th March 2017, by Committee of basic facilities for women, Babasaheb Bhimrao Ambedkar University, Lucknow-226025

11. Research Publications

1. Arpna Ratnakar and **Shikha** (2018) Assessment of co contamination in soil samples from agricultural areas in and around Lucknow city, Uttar Pradesh, India, Current Science, 115 (12) 2267-2274. (Impact factor: 0.8)
2. Anamika Pandey, Shiv Shankar, **Shikha**, Naveen Kumar Arora (2018) Amylase assisted green synthesis of silver nanocubes for antibacterial applications. Bioinspired, Biomimetic and Nanobiomaterials (doi: 10.1680/jbibn.17.00031) (ISI Scopus Impact factor-0.78)
3. Shiv Shankar, **Shikha**, Chandra Bhan, Rajesh Chandra, Sanjay Tyagi (2018) Laccase based de-inking of mixed office waste and evaluation of its impact on physico-optical properties of recycled fiber Environmental Sustainability, Springer (<https://doi.org/10.1007/s42398-018-0021-3>).
4. Shiv Shankar, **Shikha**, Arpna Ratnakar and Shailja Singh (2018) Removal of synthetic dyes from industrial wastewater using microbes as bioadsorbents: A review, Indian Journal of Environmental Protection 38 (2) 116-133. (ISSN : 0253 – 7141).
5. Jaspal Singh. **Shikha** amd Devendra P. Singh (2017) Comparative evaluation of the effect of Stannous chlorife (SnCl₂) and Dimethyltin dichloride on diazotrophic growyh and nitrogen metabolism of *Nostoc muscorum*. International Journal of Pharmaceutical Science and Research. 8(6) 2607-2611.
6. Arpna Ratnakar, Shiv Shankar and **Shikha** (2016) An overview of biodegradation of organic pollutants, International Journal of Scientific and Innovative Research, 4(1) 73-91 (ISSN 1002-0160/CN32-1315/P)
7. Shailja Singh, Shiv Shankar and **Shikha** (2016) Microbial degradation of plastics: A Review, International Journal of Scientific and Innovative Research, 4(1) 112-119 (ISSN 1002-0160/CN32-1315/P).
8. Manjul Gupta, Pankaj Kumar Srivastava, **Shikha**, Abhishek Niranjan and Shri Krishna Tewari (2016) Use of bioaugmendd organic soil amendment in combination with gypsum for *Withania somnifera* growth on sodic soil, Pedosphere, 26 (3): 299-309 (ISSN 1002-0160/CN 32-1315/P) (ISI Thomas Reuters Impact factor-1.5).
9. Shiv Shankar and **Shikha** (2015) Effect of metal ions and redox mediators on decolorization of synthetic dyes by crude Laccase from a novel white rot fungus *Peniophora* sp. (NFCCI-2131) Applied Biochemistry and Biotechnology, 175: 635-647. DOI 10.1007/s12010-014-1279-2. ISSN: 0273-2289 (print version) 1559-0291 (electronic version) (ISI Thomas Reuters Impact factor-1.687)
10. Shiv Shankar, Uma Shankar and **Shikha** (2014) Arsenic contamination of groundwater: A review of sources, prevalence, health risks and strategies for mitigation, The Scientific world journal. Volume 2014, Article ID 304524, 18 pages <http://dx.doi.org/10.1155/2014/304524> (ISI Thomas Reuters Impact factor-1.219)

11. Sangeeta Saxena, Jyoti Verma, **Shikha**, Dinesh Raj Modi **(2014)** RAPD-PCR and 16S rDNA phylogenetic analysis of alkaline protease producing bacteria isolated from soil of India: Identification and detection of genetic variability, *Journal of Genetic Engineering and Biotechnology*, 12:27-35 (<http://dx.doi.org/10.1016/j.jgeb2014.03.001>) [ISSN 1687-157X].
12. Pankaj srivastava, Manjul Gupta, **Shikha**, Nandita Singh, Shri Krishna Tewari **(2014)** Amelioration of sodic soil for wheat cultivation using bioaugmented organic soil amendment, *Land Degradation and Development*. Wiley online library.com (doi: 10.1002/ldr.2292) **(ISI Thomas Reuters Impact factor-2.058** [online ISSN 1099-145X].
13. M Gupta, **Shikha**, PK Srivastava, SK Tewari **(2014)** [Quality evaluation of vermicompost at various phases of farm waste composting and during storage](#), *Advances in Bioresearch* 5 (1), 65-72. [ISSN 2277-1573, **Universal Impact factor: 0.9710**]
14. Sonu Maheshwari, Santosh Kumar Yadav, **Shikha**, Rajeeva Gaur, N. S. Darmwal **(2014)** Isolation, screening and biochemical characterization of a potential bacterial strain for laccase production, *International Journal of Advanced Research and Technology*, 2(1) 47-56. [ISSN 2347-7490].
15. M Gupta, **Shikha**, PK Srivastava, SK Tewari **(2014)** [Prospects of sodic soil amelioration for increased crop production in India](#), *Advances in Bioresearch* 5 (1), 160-162. [ISSN 2277-1573, **Universal Impact factor: 0.9710**].
16. M Gupta, PK Srivastava, **Shikha**, SK Tewari **(2014)** [The role of bioameliorants in sodic soil reclamation](#), *IJSR Spl. Ed & NCWPCEB*, 52-56. [ISSN 0976-2876 (print), **Universal Impact Factor:1.4053**]
17. Jyoti Verma, Sangeeta Saxena, **Shikha** **(2013)** 16S rDNA Based Identification of Alkaline Protease Producing Alkaliphilic Bacillus Sp Isolated From Dairy Industry Soil And Evaluation of the Enzyme Potential In Detergent Formulation, *Res. J of Pharmaceutical, Biological and Chemical Sciences*, 4(4), 1339-1349. **(ISSN 0975-8585, Impact factor Thomas Reuters JCR-ISI 0. 35)**
18. Jyoti Verma, **Shikha**, Dinesh Raj Modi and Sangeeta Saxena **(2013)** Characterization of novel alkaline protease producing Streptomyces from alkaline soil of Lucknow, (U.P.), India, *International Journal of Pharma and Bio Sciences*, 4(2): (B) 214-224 [ISSN: 0975-6299; **Thomas Reuters -JCR-ISI Impact factor: 0.47**]
19. Shiv Shankar and **Shikha** **(2012)** Laccase production and enzymatic modification of Lignin by a novel *Peniophora* sp. *Applied Biochemistry and Biotechnology* 166 (4):1082-1094. [ISSN: 0273-2289 (print version) 1559-0291 (electronic version), **Thomas Reuters- JCR-ISI Impact factor: 1.879**].
20. Annapurna Singh, Jaspal Singh and **Shikha** **(2012)** [Status of ground water and municipal water supply of Lucknow region](#), U.P., *International Journal of Plant, Animal and Environmental Science* . 2 (4) 139-142. [ISSN 2231-4490; **Universal Impact factor: 1.0280**]
21. S Gautam, A Singh, J Singh, **Shikha** **(2012)** [Effect of flyash amended soil on growth and yield of Indian mustard \(Brassica juncea\)](#), *Advances in Bioresearch* 3 (40), 39-45. [ISSN 0976-4585, **Universal Impact factor: 0.9710**]
22. Pankaj Kumar Srivastava, Manjul Gupta, Rakesh Kumar Upadhyaya, Suresh Sharma, **Shikha**, Nandita Singh, Sri Krishna Tiwari and Bajrang Singh **(2012)** Effect of combined application of vermicompost and mineral fertilizer on the growth of *Allium*

- cepa* L. and soil fertility, J. Plant Nutr. Soil Sci. 175, 101-107. [ISSN:1522-2624, **Thomas Reuters - JCR-ISI Impact factor: 1.663**]
23. Santosh Kumar Yadav, Deepali Bisht, **Shikha**, Nandan Singh Darmwal (2011) Oxidant and solvent stable alkaline protease from *Aspergillus flavus* and its characterization, African Journal of Biotechnol., 10(43), 8630-8640. [ISSN 1684-5315 © 2011, **Thomas Reuters -JCR-ISI Impact factor: 0.57**].
 24. Mohd. Muzamil Bhat, Shiv Shankar, **Shikha**, Mohammad Yunus. R.N. Shukla (2011) Remediation of Hydrocarbon Contaminated Soil through Microbial Degradation- FTIR based prediction, Advances in Applied Science Research, 2011, 2 (2): 321-326. [ISSN: **0976-8610**].
 25. Adhyayan Sharan, **Shikha**, Nandan Singh Daramwal, (2008) Efficient phosphorus solubilization by mutant strain of *Xanthomonas campestris* using different carbon, nitrogen and phosphorus sources. World J Microbiol Biotechnol. 24:3087-3090. [ISSN **0959-3993 (print version) and 1573-0972 (electronic version); Impact factor: 1.532**]
 26. Adhyayan Sharan, **Shikha**, Nandan Singh Daramwal, Rajeeva Gaur (2008) *Xanthomonas campestris*, a novel stress tolerant, phosphate solubilizing bacterial strain from saline –alkali soils. World J Microbiol Biotechnol. 24:753-759. [ISSN **0959-3993 (print version) and 1573-0972 (electronic version); Impact factor: 1.532**]
 27. **Shikha**, Sharan, A .and Darmwal N.S. (2007) Improved production of alkaline protease from a mutant of alkalophilic *Bacillus* sp. using molasses as a cost effective substrate. Bioresource Technology, (98) 881-885. [ISSN **0960-8524; Impact factor: 4.980**].
 28. Gaur, M. K., **Shikha**, Gaur, R. and Darmwal N.S. (2005) Effect of distillery effluents on soil microorganisms. In: Biological Diversity: Current trends. (Gautam S.P., Bansal Y.K. and Pandey, A.K. eds.) Shree Publishers and Distributers, New Delhi, pp.152-157.
 29. **Shikha**, Singh D.P. and Darmwal N.S. (2004) Effect of Glyphosate on the nitrogen assimilatory system in the wild type and mutant strains of *Anabaena doliolum*. Indian Journal of Microbiology, 44(2): 85-89. [ISSN **0046-8991; Impact factor: 0.511**].
 30. **Shikha** and D.P. Singh (2004) Effect of glyphosate on photosynthetic properties of wild type and mutant strains of cyanobacterium *Anabaena doliolum*. Current science, 86(2): 571-576. [ISSN **0011-3891; Impact factor: 0.935**]
 31. **Shikha**, Singh D.P. and Darmwal N.S. (2004) Effect of glyphosate toxicity on growth, pigment and alkaline phosphatase activity in cyanobacterium *Anabaena doliolum*. : A role of inorganic phosphate in the glyphosate tolerance. Indian Journal of experimental Biology, 42: 208-213. [ISSN **0019-5189; Impact factor: 0.702**].

Book Chapters:

32. Shankar S, **Shikha**, Ratnakar A, Singh S. (2019). Environmental contamination, toxicity profile and bioremediation strategies for pulp and paper mill waste water. (Bhargwa R.N. Eds) Springer Verlag. **(In press)**.
33. Shailja Singh and **Shikha** (2019). Treatment and recycling of wastewater from oil refinery/Petroleum Industry, In: Advances in Biological treatment of Industrial waste water and their recycling for a sustainable future, Applied Environmental Science and Engineering for a Sustainable Future (Singh, R L, Singh, R P eds.) Springer Nature, pp

- 303-332. ISSN 2570-2165 ISSN 2570-2173 (electronic) ISBN 978-981-13-1467-4 ISBN 978-981-13-1468-1 (eBook) <https://doi.org/10.1007/978-981-13-1468-1>
34. Shiv Shankar, **Shikha** and Manjul Gupta (2017) Microbial cellulases and their applications in the pulp and paper industry: An emerging paradigm, In: Environmental pollutants and their bioremediation approaches (Editor-R.N. Bhargava) Chapter 10, pp 273-304. CRC Press **ISBN: 9781351700597**
 35. Shankar S and **Shikha** (2017). Climate change: Impacts on agriculture and food security, In: Biotechnology for Sustainable Agriculture Emerging approaches and strategies (Editors- Ram Lakhan Singh and Sukanta Mondal) Chapter 7, pp 207- 230, Elsevier. **ISBN: 9780128121603**
 36. Koduru JR, More N, Shankar S, **Shikha**, Lingamdinne LP, Singh J. (2017) Toxic metals contamination in environments, their toxicological effects and bioremediation approaches for environmental cleanup In: Environmental Pollutants and their Bioremediation Approaches, (Bhargwa R.N. Ed.) CRC Press, Taylor & Francis Group, USA, pp 209-239 (**ISBN: 9781138628892**)
 37. Shiv Shankar and **Shikha** (2016) Management and remediation of problem soils, solid waste and soil pollution In: Principles and applications of Environmental Biotechnology for a sustainable future (Vol. Editor- Prof. Ram Lakhan Singh) Chapter 5, pp 143-171 **Springer, (DOI 10.1007/978-981-10-1866-4)**
 38. Shiv Shankar and **Shikha** (2016) Renewable and non renewable energy sources, Bioenergy and Biofuels In: Principles and applications of Environmental Biotechnology for a sustainable future (Vol. Editor- Prof. Ram Lakhan Singh) Chapter 9, **Springer, pp 293-314 (https://dx.doi.org/10.1007/978-981-10-1866-4_5)**
 39. Shiv Shankar, **Shikha** and Manjul Gupta (2016) Microbial Xylanases: Production, Applications and Challenges, In: The Handbook of Microbial Bioresources (eds V.K Gupta et al. 2016), **CAB International, Wallingford, Oxfordshire, OX10 8DE, UK**, pp 313-330 (ISBN-13:9781780645216) (**DOI 10.1079/9781780645216.0313**)
 40. Shiv Shankar and **Shikha** (2014) Fungal degradation of Polycyclic aromatic hydrocarbons, In: Biotechnology Volume 11-Biodegradation and Bioremediation (M. Ahmad & J. N. Govil eds.), **Studium Press LLC, USA**, Volume 11, pp 95-123. (Series ISBN: 1-62699-015-8, Volume ISBN: 1-62699-026-3)
 41. Manjul Gupta, Shiv Shankar and **Shikha** (2014) Role of fungal laccases in lignin degradation and decolorization of pulp and paper mill effluent, In: Biotechnology Volume 11-Biodegradation and Bioremediation (M. Ahmad & J. N. Govil eds.), **Studium Press LLC, USA**, Volume 11, pp 241-272. (Series ISBN: 1-62699-015-8, Volume ISBN: 1-62699-026-3)
 42. **Shikha**, Shiv Shankar and Jaspal Singh (2012): Biofertilizers and Plant growth promoting Rhizobacteria, Microbial applications, (Rajeeva Gaur, S. Mehrotra, R. R. Pandey, eds.), I.K. International Publishing House Pvt. Ltd., New Delhi-110016, India, pp. 234-251. (**ISBN 978-93-81141-01-4**)
 43. Shiv Shankar and **Shikha** (2011) Fungal laccases: Production and Biotechnological applications in pulp and paper industry. Recent advances in environmental Biotechnology, (Pankaj K. Jain, Vijay K. Gupta, Vivek Bajpai, eds.) Lap Lambert Academic Publishing Ag & Co. Kg, Dudweiler Landstr, Germany. pp. 73-111. [**ISBN 978-3-8443-0687-3**].

