BIODATA

Dr. TUHINA VERMA

Professor

Department of Microbiology

Dr. Rammanohar Lohia Avadh University, Ayodhya – 224 001 (U.P.) India

Email: tuhinaverma19@gmail.com; **Mobile:** 9415076632

Correspondence/ Permanent address : D/o Late Dr. Ram Narayan Verma
6/4/4, Kaithana, Near Murao Temple
Ayodhya -224123 (UP)

ACADEMIC QUALIFICATION

- **First Class all through the career.**
- B. Sc. (Biology)- 76.5% from Dr. Dr. R. M. L. Avadh University, Faizabad (1993).

  Gold Medal for 1st rank in the University in B.Sc. (Biology) (1993).
- M. Sc. (Microbiology)- 67.33% from Dr. R. M. L. Avadh University, Faizabad (1996).
- Ph. D. (Microbiology) from Dr. R. M. L. Avadh University, Faizabad (2001).
  - **Research Work Place: Indian Institute of Toxicological Research (CSIR),** Lucknow.
  - **Ph. D. Thesis Title:** "Studies on Genetic Manipulation and characterization of plasmid chromium resistance in bacteria isolated from tannery effluent"

RESEARCH AREA OF INTEREST

- Bacterial co-remediation of chromate and chlorophenolics from industrial effluent for environmental restoration.
- Reuse of bacterial treated industrial wastewater for sustainable crop production.
- Development of strategy for removal of metallic and proteinaceous waste from polluted site and recovery of value added products.
- Application of haloalkaline bacterial protease in detergents, eco-friendly leather processing and bioremediation of proteinaceous wastes.
- Application of Plant Growth Promoting Rhizobacteria for sustainable agriculture.

Experiences: 23 years of Research and 18 years of Teaching

Project/ Research Guidance/ Supervision

- P.G. Level (M. Sc.) : 14 Students
- Research Scholars : 03 students in Research projects
- Ph.D. : 01 Student enrolled (as Guide)

Research Projects Completed as PI: 03

1. Development of Technology for Simultaneous Bioremediation of Cr (VI) and Pentachlorophenol from Tannery Effluent (Sponsored by the **CST**, Lucknow, U.P.; Duration: 03 Years (01/05/2008 to 30/04/2011); Budget: **Rs. 5,91,159**)
2. Development of bioreactor system for efficient bioremediation of chromium (VI) and pentachlorophenol simultaneously by indigenous bacteria of tannery effluent and application of effluent reuse (Sponsored by the **UGC**, New Delhi; Duration: 03 Years from 01/07/12 to 31/12/15; Budget: **Rs. 9,25,800**)
3. Development of strategy for one step removal of hexavalent chromium and proteins from tannery solid waste by halotolerant alkaline protease producing chromate resistant indigenous bacteria and application of enzyme in leather processing (Sponsored by the **DST**, New Delhi; Duration: 03 Years 06 Months from 27/06/14 to 26-12-17; Budget: **Rs. 19,00,000**).

Academic Fellowship and Awards: 16

I) Academic Fellowship:

1. SRF-CSIR (2000) No. 31/29 (114)/2000-EMR-I.
2. Post-Doctoral Fellowship (2001) at M.D. Anderson Cancer Centre, Houston, Texas (USA).

II) Awards:

3. **Gold Medal** for 1st rank in the University in **B.Sc. (Biology)**-1993.
4. **National Eligibility Test (NET)**-Indian Council of Agricultural Research-2015.
5. **International Travel Support Award-2014**, Indian National Science Academy (**INSA**), Govt. of India, New Delhi.
6. **Best Oral Presentation Award-1999** from Academy of Environmental Biology, India at 20th Annual Conference from 2-4 Dec., 1999 at Andhra University, Visakhapatnam, India.
7. **Best Oral Presentation Award -2000** from Academy of Environmental Biology, India at 21st Annual Conference from 6-8 Nov., 2000 at Narendra Dev University of Agriculture and Technology, Kumarganj, Faizabad, India.
8. **Best Oral presentation Award-2006** at National Symposium on "Issues and Challenges for Environmental management: Vision 2025" from 17-19 Feb., 2006 at Babasaheb Bhimrao Ambedkar University, Lucknow, India.
9. **Best Oral presentation Award-2014** at International Conference on "Novel Innovations and Strategies for Boosting Production and Productivity in Agriculture" from 15-16 Nov., 2014 at BHU, Varanasi, India.

10. **Best Oral presentation Award-2015** at International Conference on "Frontiers of Plant Sciences and Developing Technologies" from 07-08 Nov., 2015 at BHU, Varanasi, India.
11. **Mahima Agricultural Excellence Scientist Award-2016** at "International Conference on Climate Change and its Implications on Crop Production and Food Security" from 12-13 Nov., 2016 at BHU, Varanasi, India.
12. **Mahima Outstanding Achievement Award-2017** at "International Conference on Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security" from 25-26 Nov., 2017 at BHU, Varanasi, India.
13. **Women Scientist Award-2018** at "International Symposium on Environmental, Educational and Biological Research for Human Welfare" from 25-26 March, 2018 at BHU, Varanasi, India.
14. **Distinguished Scientist Award-2018** at "International Conference on Emerging Issues on Agricultural, Environmental, and Applied Sciences for Sustainable Development" from 27-29 Nov., 2018 at Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad, India.
15. **Excellence in Teaching Award-2018** at "International Conference on "Advances and Innovations in Biotechnology for Sustainable Development" from 5-7 April, 2019 at AKS University, Satna, India.
16. **Women Scientist Award-2019** at International Conference on Sustainable Agriculture Production for Food, Nutrition and Livelihood Security: A Challenge for Asian Farmers, 25-27 September, 2019 at Pattaya, Thailand. Organized by Pragati International Scientific Research Foundation, Meerut.

Invited/ Guest Lectures Delivered: 19

1. Guest lecture on 03 Feb, 2014 organized by the Society of Microbiology at Department of Microbiology and Fermentation Technology, Sam Higginbottom Institute of Agriculture, Technology and Sciences, Allahabad.
2. International Conference on "Future Prospects of Advancement in Biological Sciences, Health Issues and Environmental Protection" held at Indira Gandhi Prathisthan, Lucknow, organized by CytoGene Research and Development, Lucknow on 07 Feb, 2014.
3. International Symposium on "Innovations in Educational, Environmental and Health Research" held at BHU, Varanasi on 23 Feb, 2015.
4. International Conference on "Advancing Frontiers in Biotechnology for Sustainable Agriculture and Health" held at Sam Higginbottom Institute of Agriculture, Technology and Sciences, Allahabad, India on 25 Feb, 2016.
5. International Conference on "Climate Change and its Implications on Crop Production and Food Security" held at BHU, Varanasi on 12 Nov, 2016.
6. International Conference on "Sustainable Natural Resource Management from Science to Practice" held at BHU, Varanasi on 12 Jan, 2017.

7. International Conference on "Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security" held at BHU, Varanasi on 25 Nov, 2017.
8. ICAR sponsored Winter school on "Entrepreneurship Development for Sustainability in Vegetable Processing Industries" held at Indian Institute of Vegetable Research (IIVR-ICAR), Varanasi on 4 Dec, 2017.
9. International Conference on "Novel Applications of Biotechnology in Agricultural Sectors: Towards Achieving Sustainable Development Goal" at BHU, Varanasi on 21 Mar, 2018.
10. International Symposium on "Environmental, Educational and Biological Research for Human Welfare" held at BHU, Varanasi on 25 Mar, 2018.
11. UGC sponsored Faculty Development Programme held at Ranveer Rananjaya Post Graduate College, Amethi on 23 Aug., 2018.
12. National Conference on "Current Issues of Environmental Health, Climate Change and its Management" at Dr. Rammanohar Lohia Avadh University, Ayodhya on 03 Oct., 2018.
13. International Conference on "Emerging Issues on Agricultural, Environmental, and Applied Sciences for Sustainable Development" held at Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad on 29 Nov., 2018.
14. National Workshop on "Opportunity and Challenges in Ayurveda and Medical Sciences Global Perspectives" at Institute of Medical Sciences, BHU, Varanasi on 25 Jan., 2019.
15. National Conference on "Interdisciplinary Advancements in Biochemistry" held at Dr. Rammanohar Lohia Avadh University, Ayodhya on 29 March, 2019.
16. International Conference on "Advances and Innovations in Biotechnology for Sustainable Development" held at AKS University, Satna on 6 April, 2019.
17. PCR and its variants, National Workshop on "Molecular Analysis and its Application" held at Dr RL Avadh University, Ayodhya on 06 September, 2019.
18. International Conference on "Sustainable Agriculture Production for Food, Nutrition and Livelihood Security: A Challenge for Asian Farmers" held at Pattaya, Thailand during 25-27 September, 2019.
19. International Conference on "Climate change and its impact on Global Food Security Sustainability of Agriculture" held at BHU, Varanasi on 24 Nov., 2019.

Training/ Workshop/ Refresher Courses attended: 10

1. Seven days National Workshop on "Research Methodology" from May 20-26, 2019 at Dr. Rammanohar Lohia Avadh University, Ayodhya, India.
2. Eight days Model Training Course on "Challenges and opportunities in food processing in context to value addition (Neutraceutical an Functional Foods)" during October 24-31, 2017 at Banaras Hindu University, Varanasi, India.

3. Three days National Workshop on "Applications of Bioinformatics in Life Sciences" from Jan 19-21, 2015 at Banaras Hindu University, Varanasi, India
4. Completed UGC sponsored Refresher Programme on with Grade "A" in Environmental Studies held at Banaras Hindu University, Varanasi from Oct 08-28, 2014.
5. Ten days National Training Programme on "Bioinformatics in Multi-omics Era: A Microbial Genomics Perspective" from 23 Feb. to 03 March 2012 at National Bureau of Agriculturally Important Microorganisms, Mau Nath Bhanjan, India.
6. Two days National Workshop on "Bioinformatics: Tools, Techniques and Applications" from Feb 11-12, 2012 at University of Lucknow, Lucknow, India.
7. Seven days National Training course on "Techniques in Genetic Engineering" from Feb 15- 21, 2009 at Sant Gadge Baba Amravati University, Amravati, India.
8. Completed UGC sponsored Refresher Programme with Grade "A" in Environmental Studies held at University of Lucknow from Nov 09-30, 2009.
9. Completed UGC sponsored Orientation Programme with Grade "A" held at University of Lucknow from March 01-31, 2008.
10. One month Training programme of Molecular Biology techniques at Institute of Microbial Technology (CSIR), Chandigarh, India from 7 July to 5 Aug 1999.

Abroad visits: 04 Countries

1. **Houston**, Texas (**U.S.A**.)-2001 at M.D. Anderson Cancer Centre for PDF.
2. **Valencia, Spain**. 25-27 June, 2014 at Valencia Conference Centre in 5th World Congress on Biotechnology for presentation of research paper "A viable approach for efficient bioremediation of tannery effluent by simultaneous detoxification of hexavalent chromium and pentachlorophenol by an indigenous *Bacillus cereus* strain by Verma, T. and Maurya A" under International Travel Support Award-2014, Indian National Science Academy, (INSA), Govt. of India, New Delhi.
3. **Pattaya, Thailand**. 25-27 September, 2019. International Conference on Sustainable Agriculture Production for Food, Nutrition and Livelihood Security: A Challenge for Asian Farmers for presentation of invited paper "Prospects of Microbial Treated Industrial Waste Water Utilization in Agriculture" by Tuhina Verma.
4. **Siem Reap, Cambodia**. 27-29 September, 2019. Post conference educational trip/ visit under International Conference on Sustainable Agriculture Production for Food, Nutrition and Livelihood Security: A Challenge for Asian Farmers during 25-27 September, 2019 at Pattaya, Thailand.

Research Papers: 20 ***(Citations: 831, h-index: 8, i10-index: 8)***

	Title/ Reference	Impact Factor	Citations
1.	**Verma T.**, Srinath T., Gadpayle R., Ramteke P.W., Hans R.K. and Garg S.K. (2001) "Chromate tolerant bacteria isolated from tannery effluents". *Bioresource Technology*, 78: 31-35.	6.669	103
2.	**Verma T.**, Ramteke P.W. and Garg S.K. (2002) "Effect of ecological factors on conjugal transfer of chromium resistant plasmid in *Escherichia coli* isolated from tannery effluent". *Applied Biochemistry and Biotechnology*, 102-103: 5-15.	2.140	23
3.	Srinath T., **Verma T.**, Ramteke P.W. and Garg S.K. (2002) "Chromium (VI) biosorption and bioaccumulation by chromate resistant bacteria". *Chemosphere*, 48: 427-435.	5.35	553
4.	**Verma T.**, Ramteke P.W. and Garg S.K. (2004) "Occurrence of chromium resistant thermotolerant coliforms in tannery effluent". *Indian Journal of Experimental Biology,* 42: 1112-1116.	0.95	6
5.	**Verma T.**, Ramteke P.W. and Garg S.K. (2008) "Bacteriological and physico-chemical quality assessment of treated tannery wastewater with special emphasis on pathogenic *E.coli* detection through serotyping" *Environmental Monitoring and Assessment,* 145: 243-249.	1.959	29
6.	**Verma T.**, Garg S.K. and Ramteke P.W. (2009) "Genetic correlation between chromium resistance and reduction in *Bacillus brevis* isolated from tannery effluent". *Journal of Applied Microbiology*, 107: 1425-1432.	2.683	46
7.	**Verma T.** and Singh N. (2013) "Isolation and process parameter optimization of *Brevibacterium casei* for simultaneous bioremediation of hexavalent chromium and pentachlorophenol" *Journal of Basic Microbiology,* 53: 277-290.	1.760	34
8.	Singh N., **Verma T.** and Gaur R. (2013) "Detoxification of hexavalent chromium by an indigenous facultative anaerobic *Bacillus cereus* strain isolated from tannery effluent" *African Journal of Biotechnology,* 12: 1091-1103.	0.68	21
9.	**Verma T.** and Baiswar V. (2013) "Isolation and characterization of extracellular thermoalkaline protease producing *Bacillus cereus* isolated from treated tannery effluent" *The International Journal of Engineering and Science*, 2: 23-29.	0.898	12
10.	**Verma T.** and Maurya A. (2013) "Isolation of potential bacteria from tannery effluent capable to simultaneously tolerate hexavalent chromium and pentachlorophenol and its possible use in effluent	0.898	5

	bioremediation" *The International Journal of Engineering and Science,* 2: 64-69.		
11.	Maurya A. and **Verma T.** (2014) "Concomitant bioremediation of chromium (VI) and pentachlorophenol from the tannery effluent by immobilized *Brevibacterium casei*" *IOSR Journal of Engineering,* 4: 29-39.	-	5
12.	**Verma T.**, Maurya A. and Tiwari S. (2016) "Purification and characterization of hexavalent chromate reductase activity in cell free extract of *Bacillus subtilis* strain isolated from treated tannery effluent." *Current Biochemical Engineering,* 3(2): 104-109.	-	1
13.	**Verma T.** and Agarwal S. (2016) "Production and optimization of extracellular alkaline protease from halotolerant chromate resistant *Bacillus circulans* isolated from tannery solid waste." *International Journal of Plant Protection,* 9(1): 211-218.	4.59 (NAAS	-
14.	**Verma T.** and Agarwal S. (2016) "Isolation and screening of haloalkaline protease producing bacteria from tannery solid waste." *International Journal of Research in Engineering and Technology,* 5: 237-244.	2.73 (NAAS)	2
15.	**Verma T.** (2017) "Isolation and identification of biosurfactant producing chromate resistant bacteria isolated from chromium contaminated site." *International Journal of Advanced Research,* 5(7): 1515-1522.	-	-
16.	**Verma T.** (2018) "Microbial characteristics of soil: a tool for quality assessment and sustainable agriculture." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 12-16.	3.96 (NAAS)	-
17.	Tiwari S., Shukla N., Gaur R. and **Verma T.** (2018) "Isolation and optimization of organic solvent tolerant amylase producing Bacillus isolate RG-11." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 17-28.	3.96 (NAAS)	-
18.	Srivastava S. K., Chaurasia M. and **Verma T.** (2018) "Effects of sewage on physico- chemical characteristics and macro–zoobenthic community of Ramgarh lake, Gorakhpur, U.P." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 37-40.	3.96 (NAAS)	-
19.	**Verma T** and Pandey Richa (2019) "Improved chromate bioremediation by biosurfactant producing indigenous bacteria isolated from tannery effluent." *International Journal of Research and Analytical Reviews,* 6(2): 50-55.	-	-
20.	**Verma T** and Prateek Pal (2020) "Isolation and Screening of rhizobacteria for various plant growth promoting attributes". *Journal of Pharmacognosy and Phytochemistry,* 9(1): 1514-1517.	5.21 (NAAS)	-

Book/ Book Chapters: 08 Book Chapters, 03 Books

Book Chapters: 08

1. **Verma, T.** (2012) Biosensors: A real time analytical tool in "Microbial Applications" Editors: Gaur R., Mehrotra S. and Pandey R.R., I. K. International Publishers, New Delhi, India: 252-271.
2. **Verma, T.** and Singh N. (2013) Potential of Microbial Diversity in Environmental Protection In "Recent Advances in Microbiology: Volume 2" Editors: Tiwari S. P., Sharma R. and Gaur R., Nova Science Publishing, Inc., New York, USA: 297-326.
3. **Verma, T.** and Maurya A. (2014) Effect of bacterial treated and raw tannery effluent on seed germination and growth parameters of black gram (*Vigna mungo* L.) In "Novel Innovations and Strategies for boosting production and productivity in agriculture" Editors: Rao R. K., Sharma P. K. and Singh A. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 168-178. ISBN: 978-81-926935-4-5.
4. **Verma, T.** and Agarwal S. (2016) An assessment on the effect of climate change on protease producing bacteria In "Climate change and its implications on crop production and food security" Editors: Rao R. K., Sharma P. K. and Singh A. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 118-124. ISBN: 978-81-926935-4-5.
5. **Verma, T.**, Maurya A., Tripathi M., and Garg S. K. (2017) "Mycoremediation: An alternative treatment strategy for heavy metal-laden waste water" In: "Developments in Fungal Biology and Applied Mycology" Editors: Deshmukh S. K., Johri B. N. and Satyanarayana T., Publisher: Springer: 315-340. ISBN: 978-981-10-4767-1.
6. **Verma, T.** (2017) "Role of indigenous bacteria in multi-metal bioremediation and its potential impact in sustainable agriculture development" In: "Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security" Editors: Rao R. K., Sharma P. K., Raghuraman M. and Singh J. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 373-382. ISBN: 978-81-926935-8-3.
7. **Verma, T.**, Maurya A., Tripathi M., and Ram S. K. (2019) "Treatment and recycling of wastewater from Tannery" In: "Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future" Editors: Singh R. L. and Singh R. P., Publisher: Springer. 51-90. ISBN: 978-981-13-1468-1.
8. Tiwari S. and **Verma T**. (2019) Cellulose as a Potential Feedstock for Cellulase Enzyme Production" In: "Fungal Biology: Approaches to Enhance Industrial Production of Fungal Cellulases" Publisher: Springer Nature. 89-116. ISBN: 978-3-030-14725-9.

Books: 03

1. **Verma, T.** (2015) "Biofuels" 1st Edition, Shree Publishers and Distributors, New Delhi, India: 1-372. ISBN: 978-81-8329-766-0.

2. Bhatia S. C. and **Verma, T.** (2016) "Food Biochemistry" 1st Edition, Shree Publishers and Distributors, New Delhi, India: 1-384. ISBN: 978-81-8329-778-3.
3. **Verma T.** and Prasad S. (Eds.) (2020) "Biotechnology in Food Production and Food Security" Shree Publishers and Distributors, New Delhi, India. 1-287. ISBN: 978-81-8329-997-8.

Papers presented in Conferences/ Symposia/ Seminar: 47

1. International: 33
2. National: 14

Administrative and other experience

1. Coordinator, Women Grievance and Welfare Cell, Dr. R.L. Avadh University from 7 August, 2020 till date.
2. Hostel Warden, Acharya Narendra Dev Girls' Hostel, Dr. R.M.L. Avadh University, from Sept, 2019 to July, 2020.
3. Coordinator, Prevention of Sexual Harassment Cell, Dr. R.M.L. Avadh University from November 2017 to 6 August, 2020.
4. Member, IQAC, Dr. R.M.L. Avadh University from November 2019 till date.
   Member, Executive Council, Dr. R.M.L. Avadh University from 17 January, 2018 to 16 January, 2019.
5. Superintendent (16-08-2010 AN to 09-08-2016) and Assistant Superintendent (16-04-2009 to 16-08-2010 FN) of A.B.H. Girls Hostel, Dr. R.M.L. Avadh University.
6. Assistant DSW, Dr. R.M.L. Avadh University (for 03 years from 20-09-2011).
7. Member, Anti-ragging Committee, Dr. R. M. L. Avadh University, Faizabad.
8. Member, Promotion Committee of non-teaching staff of Dr. R.M.L. Avadh University, Faizabad (from 21/03/2013 till date).
9. Assistant Co-ordinator in Dr. R.M.L. Avadh University Entrance Examinations (M. Ed. 2010 and RCAT 2010).
10. Centre Superintendent and Assistant Centre Superintendent in Dr. R.M.L. Avadh University Examinations
11. Observer in various Dr. R.M.L. Avadh University Entrance Examinations (B. Ed. & L.L.B.).
12. Member, Board of Studies, Department of Microbiology, Dr. R.M.L. Avadh University, Faizabad.

Additional Information

1. Chairperson of Technical session in four International Conferences held at BHU, Varanasi (in Nov., 2016; Jan., 2017 and Aug., 2017) and Pattaya, Thailand in September, 2019.
2. Practical/ Theory Examiners of several Universities at UG and PG level.
3. Examined four Ph. D. thesis of Department of Biotechnology & Allied Sciences, Allahabad Agricultural Institute- Deemed University, Allahabad and BBDU, Lucknow.
4. Several Guest lectures in Department of Biotechnology, Dr. R.M.L. Avadh University, Faizabad and V.B.S. Purvanchal University, Jaunpur and in Department of Environmental Microbiology, Babasaheb Bhimrao Ambedkar University, Lucknow.
5. Organized Three days Workshop on "Gene Cloning and its Expression to Produce Genetically Modified Organisms" at Department of Microbiology, Dr. R. M. L. Avadh University, Faizabad from 23-25 Oct., 2017 in association with Cytogene Research and Development, Lucknow.
6. Member, National Advisory Committee of International Conferences held at BHU, Varanasi during Nov., 2016 and Nov., 2017.
7. Reviewed several research papers of Scientific Indexed Journals.
8. Three articles in National news paper highlighting the outcome of my research.
9. Rapportier in "National Conference on Frontiers in Biological Sciences" from Dec. 4-5, 2011 at VBS Purvanchal University, Jaunpur, India.
10. A number of talks (in Hindi) on benefits of Microbiology for the society on Radio.
11. Member, Organizing Committee of several National and International Conferences/ Seminar held at Dr. R.M.L. Avadh University, Ayodhya, India during Feb., 2011; Sept., 2015; Oct., 2017; Dec., 2017, April 2018; Oct., 2018 and March 2019.

EXTENSION ACTIVITIES

1. Delivered a number of talks (in Hindi) on benefits of Microbiology for the society on All India Radio, Ayodhya.
2. Awareness Programme for School Children's about the presence of microorganisms in food and water samples through demonstration and how to save our self from infection.
3. Social work for popularization of benefits of Microbiology in agriculture, food, industrial applications, public health and hygiene.

Life Membership of Professional Societies:

1. Association of Microbiologists of India
2. Society for Bioinformatics and Biological Sciences
3. Academy of Environmental Biology
4. Agro-Environ Development Society

Place: Ayodhya **(Tuhina Verma)**

Proforma for Faculty Profile

S. No.	Department	Name of the Teacher	Designation	D.O.B	Post Type (Regular / Contract / Guest)	Date of Joining in this University	Total Teaching Experience	Professional Experience	Research Experience	Total Publication till Date	Publication During Last 05 Years	Project/Patent/ Awards During Last 05 Years	E-Contents Developed During Last 02 Years
1.	Microbiology	Dr. Tuhina Verma	Professor	15/ 06/ 1973	Regular	23/09/2005	~18 years	--	~23 years	31 (Annexure -I)	16 (Annexure -II)	Research Project (DST) -1; Awards-7 (International)	MSc Microbiology 2nd and 3rd Sem. E- Content (ppt and lecture notes).
2.													
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Note:

1. Please attach evidence of each of the field mention above.
2. Please provide complete Bio-Data in hard copy in the office of the IQAC by 10-08-2020 and soft copy of Bio-Data and evidences in pdf format on email-**iqac@rmlau.ac.in** . Please write your name and department in subject field of email.

Director IQAC

Annexure I

Research Papers: 20

1. **Verma T.**, Srinath T., Gadpayle R., Ramteke P.W., Hans R.K. and Garg S.K. (2001) "Chromate tolerant bacteria isolated from tannery effluents". *Bioresource Technology,* 78: 31-35.
2. **Verma T.**, Ramteke P.W. and Garg S.K. (2002) "Effect of ecological factors on conjugal transfer of chromium resistant plasmid in *Escherichia coli* isolated from tannery effluent". *Applied Biochemistry and Biotechnology*, 102-103: 5-15.
3. Srinath T., **Verma T.**, Ramteke P.W. and Garg S.K. (2002) "Chromium (VI) biosorption and bioaccumulation by chromate resistant bacteria". *Chemosphere,* 48: 427-435.
4. **Verma T.**, Ramteke P.W. and Garg S.K. (2004) "Occurrence of chromium resistant thermotolerant coliforms in tannery effluent". *Indian Journal of Experimental Biology,* 42: 1112-1116.
5. **Verma T.**, Ramteke P.W. and Garg S.K. (2008) "Bacteriological and physico-chemical quality assessment of treated tannery wastewater with special emphasis on pathogenic *E.coli* detection through serotyping" *Environmental Monitoring and Assessment,* 145: 243- 249.
6. **Verma T.**, Garg S.K. and Ramteke P.W. (2009) "Genetic correlation between chromium resistance and reduction in *Bacillus brevis* isolated from tannery effluent". *Journal of Applied Microbiology*, 107: 1425-1432.
7. **Verma T.** and Singh N. (2013) "Isolation and process parameter optimization of *Brevibacterium casei* for simultaneous bioremediation of hexavalent chromium and pentachlorophenol" *Journal of Basic Microbiology,* 53: 277-290.
8. Singh N., **Verma T.** and Gaur R. (2013) "Detoxification of hexavalent chromium by an indigenous facultative anaerobic *Bacillus cereus* strain isolated from tannery effluent" *African Journal of Biotechnology,* 12: 1091-1103.
9. **Verma T.** and Baiswar V. (2013) "Isolation and characterization of extracellular thermoalkaline protease producing *Bacillus cereus* isolated from treated tannery effluent" *The International Journal of Engineering and Science,* 2: 23-29.
10. **Verma T.** and Maurya A. (2013) "Isolation of potential bacteria from tannery effluent capable to simultaneously tolerate hexavalent chromium and pentachlorophenol and its possible use in effluent bioremediation" *The International Journal of Engineering and Science,* 2: 64-69.
11. Maurya A. and **Verma T.** (2014) "Concomitant bioremediation of chromium (VI) and pentachlorophenol from the tannery effluent by immobilized *Brevibacterium casei*" *IOSR Journal of Engineering,* 4: 29-39.
12. **Verma T.**, Maurya A. and Tiwari S. (2016) "Purification and characterization of hexavalent chromate reductase activity in cell free extract of *Bacillus subtilis* strain isolated from treated tannery effluent." *Current Biochemical Engineering,* 3(2): 104-109.

13. **Verma T.** and Agarwal S. (2016) "Production and optimization of extracellular alkaline protease from halotolerant chromate resistant *Bacillus circulans* isolated from tannery solid waste." *International Journal of Plant Protection,* 9(1): 211-218.
14. **Verma T.** and Agarwal S. (2016) "Isolation and screening of haloalkaline protease producing bacteria from tannery solid waste." *International Journal of Research in Engineering and Technology,* 5: 237-244.
15. **Verma T.** (2017) "Isolation and identification of biosurfactant producing chromate resistant bacteria isolated from chromium contaminated site." *International Journal of Advanced Research,* 5(7): 1515-1522.
16. **Verma T.** (2018) "Microbial characteristics of soil: a tool for quality assessment and sustainable agriculture." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 12-16.
17. Tiwari S., Shukla N., Gaur R. and **Verma T.** (2018) "Isolation and optimization of organic solvent tolerant amylase producing Bacillus isolate RG-11." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 17-28.
18. Srivastava S. K., Chaurasia M. and **Verma T.** (2018) "Effects of sewage on physico-chemical characteristics and macro–zoobenthic community of Ramgarh lake, Gorakhpur, U.P." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 37-40.
19. **Verma T** and Pandey Richa (2019) "Improved chromate bioremediation by biosurfactant producing indigenous bacteria isolated from tannery effluent." *International Journal of Research and Analytical Reviews,* 6(2): 50-55.
20. **Verma T** and Prateek Pal (2020) "Isolation and Screening of rhizobacteria for various plant growth promoting attributes". *Journal of Pharmacognosy and Phytochemistry,* 9(1): 1514-1517.

Book Chapters: 08

1. **Verma, T.** (2012) Biosensors: A real time analytical tool in "Microbial Applications" Editors: Gaur R., Mehrotra S. and Pandey R.R., I. K. International Publishers, New Delhi, India: 252-271.
2. **Verma, T.** and Singh N. (2013) Potential of Microbial Diversity in Environmental Protection In "Recent Advances in Microbiology: Volume 2" Editors: Tiwari S. P., Sharma R. and Gaur R., Nova Science Publishing, Inc., New York, USA: 297-326.
3. **Verma, T.** and Maurya A. (2014) Effect of bacterial treated and raw tannery effluent on seed germination and growth parameters of black gram (*Vigna mungo* L.) In "Novel Innovations and Strategies for boosting production and productivity in agriculture" Editors: Rao R. K., Sharma P. K. and Singh A. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 168-178. ISBN: 978-81-926935-4-5.
4. **Verma, T.** and Agarwal S. (2016) An assessment on the effect of climate change on protease producing bacteria In "Climate change and its implications on crop production and food security" Editors: Rao R. K., Sharma P. K. and Singh A. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 118-124. ISBN: 978-81-926935-4-5.
5. **Verma, T.**, Maurya A., Tripathi M., and Garg S. K. (2017) "Mycoremediation: An alternative treatment strategy for heavy metal-laden waste water" In: "Developments in Fungal Biology and Applied Mycology" Editors: Deshmukh S. K., Johri B. N. and Satyanarayana T., Publisher: Springer: 315-340. ISBN: 978-981-10-4767-1.

6. **Verma, T.** (2017) “Role of indigenous bacteria in multi-metal bioremediation and its potential impact in sustainable agriculture development” In: “Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security” Editors: Rao R. K., Sharma P. K., Raghuraman M. and Singh J. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 373-382. ISBN: 978-81-926935-8-3.
7. **Verma, T.**, Maurya A., Tripathi M., and Ram S. K. (2019) “Treatment and recycling of wastewater from Tannery" In: “Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future” Editors: Singh R. L. and Singh R. P., Publisher: Springer. 51-90. ISBN: 978-981-13-1468-1.
8. Tiwari S. and **Verma T**. (2019) Cellulose as a Potential Feedstock for Cellulase Enzyme Production” In: “Fungal Biology: Approaches to Enhance Industrial Production of Fungal Cellulases” Publisher: Springer Nature. 89-116. ISBN: 978-3-030-14725-9.

Books: 03

1. **Verma, T.** (2015) “Biofuels” 1st Edition, Shree Publishers and Distributors, New Delhi, India: 1-372. ISBN: 978-81-8329-766-0.
2. Bhatia S. C. and **Verma, T.** (2016) “Food Biochemistry” 1st Edition, Shree Publishers and Distributors, New Delhi, India: 1-384. ISBN: 978-81-8329-778-3.
3. **Verma T.** and Prasad S. (Eds.) (2020) “Biotechnology in Food Production and Food Security” Shree Publishers and Distributors, New Delhi, India. 1-287. ISBN: 978-81-8329-997-8.

Annexure II

Research Papers: 09

1. **Verma T.**, Maurya A. and Tiwari S. (2016) "Purification and characterization of hexavalent chromate reductase activity in cell free extract of *Bacillus subtilis* strain isolated from treated tannery effluent." *Current Biochemical Engineering,* 3(2): 104-109.
2. **Verma T.** and Agarwal S. (2016) "Production and optimization of extracellular alkaline protease from halotolerant chromate resistant *Bacillus circulans* isolated from tannery solid waste." *International Journal of Plant Protection,* 9(1): 211-218.
3. **Verma T.** and Agarwal S. (2016) "Isolation and screening of haloalkaline protease producing bacteria from tannery solid waste." *International Journal of Research in Engineering and Technology,* 5: 237-244.
4. **Verma T.** (2017) "Isolation and identification of biosurfactant producing chromate resistant bacteria isolated from chromium contaminated site." *International Journal of Advanced Research,* 5(7): 1515-1522.
5. **Verma T.** (2018) "Microbial characteristics of soil: a tool for quality assessment and sustainable agriculture." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 12-16.
6. Tiwari S., Shukla N., Gaur R. and **Verma T.** (2018) "Isolation and optimization of organic solvent tolerant amylase producing Bacillus isolate RG-11." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 17-28.
7. Srivastava S. K., Chaurasia M. and **Verma T.** (2018) "Effects of sewage on physico-chemical characteristics and macro–zoobenthic community of Ramgarh lake, Gorakhpur, U.P." *Indian Journal of Agriculture and Allied Sciences,* 4(2): 37-40.
8. **Verma T** and Pandey Richa (2019) "Improved chromate bioremediation by biosurfactant producing indigenous bacteria isolated from tannery effluent." *International Journal of Research and Analytical Reviews,* 6(2): 50-55.
9. **Verma T** and Prateek Pal (2020) "Isolation and Screening of rhizobacteria for various plant growth promoting attributes". *Journal of Pharmacognosy and Phytochemistry,* 9(1): 1514-1517.

Book Chapters: 05

1. **Verma, T.** and Agarwal S. (2016) An assessment on the effect of climate change on protease producing bacteria In "Climate change and its implications on crop production and food security" Editors: Rao R. K., Sharma P. K. and Singh A. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 118-124. ISBN: 978-81-926935-4-5.
2. **Verma, T.**, Maurya A., Tripathi M., and Garg S. K. (2017) "Mycoremediation: An alternative treatment strategy for heavy metal-laden waste water" In: "Developments in Fungal Biology and Applied Mycology" Editors: Deshmukh S. K., Johri B. N. and Satyanarayana T., Publisher: Springer: 315-340. ISBN: 978-981-10-4767-1.

3. **Verma, T.** (2017) “Role of indigenous bacteria in multi-metal bioremediation and its potential impact in sustainable agriculture development” In: “Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security” Editors: Rao R. K., Sharma P. K., Raghuraman M. and Singh J. K., Publisher: Mahima Research Foundation and Social Welfare, Varanasi, India: 373-382. ISBN: 978-81-926935-8-3.
4. **Verma, T.**, Maurya A., Tripathi M., and Ram S. K. (2019) “Treatment and recycling of wastewater from Tannery" In: “Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future” Editors: Singh R. L. and Singh R. P., Publisher: Springer. 51-90. ISBN: 978-981-13-1468-1.
5. Tiwari S. and **Verma T**. (2019) Cellulose as a Potential Feedstock for Cellulase Enzyme Production” In: “Fungal Biology: Approaches to Enhance Industrial Production of Fungal Cellulases” Publisher: Springer Nature. 89-116. ISBN: 978-3-030-14725-9.

Books: 02

1. Bhatia S. C. and **Verma, T.** (2016) “Food Biochemistry” 1st Edition, Shree Publishers and Distributors, New Delhi, India: 1-384. ISBN: 978-81-8329-778-3.
2. **Verma T.** and Prasad S. (Eds.) (2020) “Biotechnology in Food Production and Food Security” Shree Publishers and Distributors, New Delhi, India. 1-287. ISBN: 978-81-8329-997-8.

Annexure III

Research Projects:

Development of strategy for one step removal of hexavalent chromium and proteins from tannery solid waste by halotolerant alkaline protease producing chromate resistant indigenous bacteria and application of enzyme in leather processing (Sponsored by the **DST**, New Delhi; Duration: 03 Years 06 Months from 27/06/14 to 26-12-17; Budget: **Rs. 19,00,000**)

Awards:

1.	Best Paper Award-2015	International Conference on 'Frontiers of Plant Sciences and Developing Technologies'. 07-08 Nov., 2015 at BHU, Varanasi
2.	Mahima Agricultural Excellence Scientist Award-2016	Mahima Research Foundation and Social Welfare at International Conf. on Climate Change and its Implications on Crop Production and Food Security, 12-13 Nov., 2016 at BHU, Varanasi.
3.	Mahima Outstanding Achievement Award-2017	Mahima Research Foundation and Social Welfare at "International Conference on Agricultural, Allied Sciences and Biotechnology for Sustainability of Agriculture, Nutrition and Food Security", 25-26 Nov., 2017 at BHU, Varanasi, India
4.	Women Scientist Award-2018	Society of Educational Development and Environmental Research at "International Symposium on Environmental, Educational and Biological Research for Human Welfare", 25-26 March, 2018 at BHU, Varanasi, India.
5.	Distinguished Scientist Award-2018	Agro-Environmental Development Society (AEDS), Rampur at "International Conference on Emerging Issues on Agricultural, Environmental, and Applied Sciences for Sustainable Development", 27-29 Nov., 2018 at Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad, India.
6.	Excellence in Teaching Award-2019	Society for Bioinformatics and Biological Sciences (SBBS) at Iinternational Conference on Advances and Innovations in Biotechnology for Sustainable Development, 5-7 April, 2019 at AKS University, Satna, MP.
7.	Women Scientist Award-2019	Pragati International Scientific Research Foundation at International Conference on "Sustainable Agriculture Production for Food, Nutrition and Livelihood Security: A Challenge for Asian Farmers", 25-27 September, 2019 at Pattaya, Thailand.