

Curriculum Vitae

Dr. Manikant Tripathi

Ph. D. (Microbiology), Dr. RML Avadh University, Faizabad (INDIA)

Assistant Professor (Guest), Department of Microbiology,

Dr. Rammanohar Lohia Avadh University, Faizabad (INDIA)

Ex-Assistant Professor, Jhunjhunwala PG College, Faizabad (INDIA)

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EDUCATIONAL QUALIFICATION

Ph.D. Microbiology (2008-2013), Thesis entitled “Simultaneous bioremediation of chromium (VI) and pentachlorophenol from tannery effluent” from Dr. Rammanohar Lohia Avadh University Faizabad (INDIA).

M.Sc. Microbiology (2003-2005) Dr. Rammanohar Lohia Avadh University Faizabad (INDIA).

Marks: 63.70 %

B.Sc. (2000-2003)

with Industrial Microbiology, Botany & Chemistry, Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur (INDIA)

Marks: 70.30 %

ACADEMIC FELLOWSHIP & AWARDS

- [1] **National Eligibility Test (NET)**, Organised by Indian Council of Agriculture Research-Government of India – 2014
- [2] **UGC Research Fellowships in Science for Meritorious Students** from University Grants Commission, New Delhi- (2008-2013)
- [3] **Best Poster Award** in National Conference on “Bioprospecting: Access for Sustainable Development” organized by Motilal Nehru National Institute of Technology, Allahabad during 19-20 Feb., 2010.
- [4] **Young Scientist Award** in National Conference organized by Vigyan Bharti UP Chapter at Deoria in 2016.
- [5] **Excellent Teaching Award** in International Conference organized by Society of Biotechnology at SHIAT, Allahabad in 2016.

- [6] **Young Scientist Award** in International Conference organized by SAID, Ranchi, Jharkhand at Kathmandu, Nepal in 2017.
- [7] **Young Scientist Award** in National Conference organized by Science & Tech Society for Integrated Rural Improvement, Telangana in 2017
- [8] **Young Scientist Award** in International Conference organized by Endlings Conferences, Dhanbad, Jharkhand during 29-31st March, 2018.
- [9] **Best Oral Presentation Award** in International Conference organized by Endlings Conferences, Dhanbad, Jharkhand during 29-31st March, 2018.

[10] **Editors of International Journals**

- Annual Research and Reviews in Biology
- Research and Reviews: Research Journal of Biology
- Frontiers in Environmental Microbiology
- Journal of Biotechnology and Bioengineering
- International Journals of Advance Research in Science and Engineering,
- Journal of PeerScientist
- Journal of Advanced Biotechnology and Genetic Engineering
- Virology and Immunology Journal
- Current Agriculture
- Vaccine and Vaccination Open Access
- Open Access Journal of Oncology
- UPI-Journal of Chemical and Life Sciences
- International Journal of Zoology and Animal Biology
- International Journal of Medical and Health Research

[11] **Reviewers of International Publishers:** Nature Publishing House, UK; Springer, Germany; Elsevier, Netherland, Jordan Journal of Life Sciences, Journal of King Saud University- Science

TEACHING & ADMINISTRATIVE EXPERIENCE

- **Assistant Professor (Guest)**, Department of Microbiology, Dr. RML Avadh University, Faizabad, UP, INDIA, (**August 2015- till date**)
- **Assistant Professor**, Jhunjhunwala PG College, Faizabad, UP, INDIA, (**July 2013- June 2015**)
- **Assistant Central Superintendent**, University Examination (Sessions 2013-2014 and 2014-2015) in Jhunjhunwala PG College, Faizabad
- External Practical Examiner for B.Tech. and M.Sc. Biotechnology in Rama University, Kanpur.

ACADEMIC PROJECTS

Doctoral Research

Topic: Simultaneous Bioremediation of Chromium (VI) and Pentachlorophenol from Tannery Effluent

Place of work: Dr. Ram Manohar Lohia Avadh University, Faizabad (INDIA)-224001

Supervisor: Prof. Satyendra Kumar Garg

Achievements: World's First report on simultaneous bioremediation of chromium and pentachlorophenol by a native bacterial isolate *Bacillus cereus* RMLAU1 isolated from tannery effluent

Master's Research

Topic: Studies on the treatment of distillery effluent with special reference to bio-composting and colour removing microorganism

Place of work: Saraya Distillery, Gorakhpur (INDIA)
(A group of Saraya Industries Ltd., New Delhi, India)

Duration: 3months

RESEARCH ACHIEVMENTS

MICROBIAL CULTURE: NCBI GenBank & MTCC

Accession number: FJ959366 (USA)

Accession number: MTCC9777 (India)

RESEARCH INTERESTS

Environmental Microbiology, Agriculture Microbiology, Microbial Technology.

PUBLICATIONS

Total Publications: 44 (28 International + 12 National)

Communicated papers: 03

Communicated Book: 01

Cumulative Impact Factor: ~ 32

Google Scholar Citations of Publications: 311

h index: 9

*i*₁₀ index: 9

Papers in SCI Journals: 15 , Papers in UGC Approved: 28, Non SCI papers: 16

RESEARCH ARTICLE:

- [1] **Tripathi, M.** and Garg, S.K. (2010) Studies on selection of efficient bacterial strain simultaneously tolerant to hexavalent chromium and pentachlorophenol isolated from treated tannery effluent. *Res. J. Microbiol.*, **5** (8): 707-716. doi:10.3923/jm.2010.707.716. **(Publisher: Science Alert, USA)-**
- [2] **Tripathi, M.**, Vikram, S., Jain, R.K. and Garg, S.K. (2011) Isolation and growth characteristics of chromium (VI) and pentachlorophenol tolerant bacterial isolate from treated tannery effluent for its possible use in simultaneous bioremediation. *Indian J. Microbiol.*, **51**(1): 61-69. doi:10.1007/s12088-011-0089-2. **(Publisher: Springer, India)**
- [3] **Tripathi, M.**, Mishra, S.S., Tripathi, V.R. and Garg, S.K. (2011) Predictive approach for simultaneous biosorption of hexavalent chromium and pentachlorophenol degradation by *Bacillus cereus* RMLAU1. *Afr. J. Biotechnol.*, **10**(32): 6052-6061. **(Publisher: Academic Journals, Kenya)**
- [4] Garg, S. K., **Tripathi, M.**, Singh, S.K., Tewari, J. (2012). Biodecolorization of textile dye effluent by *Pseudomonas putida* SKG-1 (MTCC 10510) under the conditions optimized for monoazo dye orange II color removal in simulated minimal salt medium. *Int. Biodet. Biodeg.* **74**, 24-35. DOI: 10.1016/j.ibiod.2012.07.007 **(Publisher: Elsevier, England)**
- [5] Garg, S. K., **Tripathi, M.**, Kumar, S., Singh, S. K., Singh, S. (2012). Microbial Dechlorination of chloroorganics and Simultaneous Decolorization of Pulp-paper Mill Effluent by *Pseudomonas putida* MTCC 10510 Augmentation. *Environ.*

Monit. Assess. **184**:5533–5544. DOI: 10.1007/s10661-011-2359-1 **(Publisher: Springer, Netherland)**

- [6] **Tripathi, M.** and Garg, S.K. (2013) Co-remediation of pentachlorophenol and Cr⁶⁺ by free and immobilized cells of native *Bacillus cereus* isolate: spectrometric characterization of PCP dechlorination products, bioreactor trial and chromate reductase activity. *Process Biochem.*, 48: 496–509. doi:10.1016/j.procbio.2013.02.009 **(Publisher: Elsevier, Netherland)**
- [7] Garg, S.K., **Tripathi, M.**, Singh, S.K. and Singh, A. (2013) Pentachlorophenol dechlorination and simultaneous Cr⁶⁺ reduction by *Pseudomonas putida* SKG-1 MTCC (10510): Characterization of PCP dechlorination products, bacterial structure and functional groups. *Environ. Sci. Pollut. Res.*, **20**: 2288–2304. doi:10.1007/s11356-012-1101-z **(Publisher: Springer, Netherland)**
- [8] Tewari, S., Ramteke, P.W., **Tripathi, M.**, Kumar, S., Garg, S.K. (2013). Plasmid mediated transfer of antibiotic resistance and heavy metal tolerance in thermotolerant water borne coliforms. *Afr. J. Microbiol. Res.*, 7(2): 130-136. **(Publisher: Academic Journals, Nigeria)**
- [9] Garg, S.K. and **Tripathi, M.** (2013) Process parameters for decolorization and biodegradation of orange II (Acid Orange 7) in dye-simulated minimal salt medium and subsequent textile effluent treatment by *Bacillus cereus* (MTCC 9777) RMLAU1. *Environ. Monit. Assess.*, 185:8909-8923. DOI 10.1007/s10661-013-3223-2. **(Publisher: Springer, Netherland)**
- [10] **Tripathi, M.** and Garg, S.K. (2013). Dechlorination of chloroorganics, decolorization and simultaneous bioremediation of Cr⁶⁺ from real tannery effluent employing indigenous *Bacillus cereus* isolate. *Environ. Sci. Pollut. Res.*, 21:5227-5241. DOI: 10.1007/s11356-013-2479-y **(Publisher: Springer, Netherland)**
- [11] **Tripathi, M.** and Garg, S.K. (2014) Response surface modeling for co-remediation of Cr⁶⁺ and pentachlorophenol by *Bacillus cereus* RMLAU1: bioreactor trial, structural and functional characterization by SEM-EDS and FT-IR analyses. *Bioremediat. J.* 18 (4): 1-17. **(Publisher: Taylor & Francis, Philadelphia)**

- [12] Garg, S.K., **Tripathi, M.** and Lal, N. (2014) Response surface methodology for optimization of process variable for reactive orange 4 dye discoloration by *Pseudomonas putida* SKG-1 strain and bioreactor trial for its possible use in large-scale bioremediation. *Desalination and Water Treatment*, 54:3122-3133. DOI:10.1080/19443994.2014.905975. **(Publisher: Taylor & Francis, United Kingdom)**
- [13] Garg, S.K., **Tripathi, M.** and Lal, N. (2015) Statistical design for optimization of process parameters for biodecolorization of reactive orange 4 azo dye by *Bacillus cereus* isolate. *Res. J. Microbiol.* 10(11): 502-512. **(Publisher: Science Alert, USA)**
- [14] Garg, S.K., Singh, K. and **Tripathi, M.** (2015) Optimization of process variable for hexavalent chromium biosorption by psychrotrophic *Pseudomonas putida* SKG-1 isolate. *Desalination and Water Treatment*, 57: 19865-19876. **(Publisher: Taylor & Francis, United Kingdom)**
- [15] Yadav, S.K., **Tripathi, M.**, Singh, R.K. and Yadav, A.K. (2016) Front line demonstration: enhancing the productivity of pigeon pea employing raised bed method over conventional techniques. *Asian Journal of Biosciences*, 11: 190-192.
- [16] Yadav, S.K., Tomar, S.K., **Tripathi, M.**, Yadav, R. and Yadav, A.K. (2016) Front line demonstration technology for enhancing the mustard production in farming fields. *Progressive Research-An International Journal*, 11: 5663-5665.
- [17] Yadav, S.K., **Tripathi, M.**, Singh, S., Singh, R.K., Yadav, A.K. and Yadav, R. (2016) Front line demonstration technology for enhancing yield of agriculturally important crops. *Progressive Research-An International Journal*, 11: 5666-5668.
- [18] Yadav, S.K., Rajput S.K.S., **Tripathi, M.**, Yadav, R., Chandra, S. and Singh, R.K. (2016) Effect of front line demonstration for enhancing the yield of chickpea (*Cicer arietinum*). *Agriculture Update*, 11: 22-25.
- [19] Kumar, S., Tripathi, V., **Tripathi, M.** and Kumar, S. (2017) Endoproteolytic and bacterial extracellular protease inhibitor extracted from *Pongamia pinnata* seed. *Progressive Research-An International Journal*, 12 (special-II): 1636-1639.
- [20] **Tripathi, M.**, Kumar, A., Yadav, S.K. and Kumar, S. (2017) Decolorization and dechlorination of pulp-paper mill effluent by augmentation of native isolates of

Bacillus and *Roultella* spp. Progressive Research-An International Journal, 12 (special-I): 1173-1177.

- [21] Yadav, S.K., Tomar, S.K., **Tripathi, M.** and Singh, S.N. (2017) Front line demonstration technology for pulses production using *Rhizobium* sp., *Trichoderma* sp. and phosphate solubilising bacteria: a comparative study. Bull. Environ. Pharmacol. Life Sci. 6 (Special Issue 3): 576-579.
- [22] Yadav, S.K., **Tripathi, M.** and Kumar, S. (2017) Microbial augmentation for enhancing lentil and field pea production in agriculture fields. J. Biotechnol. Bioeng., 1: 28-30.
- [23] **Tripathi, M.**, Kumar, A. and Kumar, S. (2017) Characterization of silver nanoparticle synthesizing bacteria and its possible use in treatment of multi drug resistant isolate. Front. Environ. Microbiol. 3: 62-67.
- [24] Garg, S.K., Garg, S., **Tripathi, M.** and Singh, K. (2018) Microbial treatment of tannery effluent by augmenting psychrotrophic *Pseudomonas putida* isolate. Environ. Pollut. Prot. 3(1): 23-39. doi: 10.22606/epp.2018.31003.
- [25] **Tripathi, M.**, Pandey, R. and Kumar, R. (2018) Biodecolorization of Orange II dye by native *Bacillus* sp. and *Staphylococcus* sp. in simulated medium. J. Pharmacog. Phytochem. SP1: 1366-1368.
- [26] **Tripathi, M.**, Haroon, M. and Kumar, S. (2018) Antibiotic resistance in *Escherichia coli* isolates associated with child diarrhoea cases. J. Pharmacog. Phytochem. SP1: 1300-1303.
- [27] Pandey, R., **Tripathi, M.** and Singh, J. (2018) Impact of industrial wastewaters on the fish *Poecilia reticulata*: integrating wastewater toxicity with ecological safety. J. Pharmacog. Phytochem. SP1: 1296-1299.
- [28] Pandey, R., **Tripathi, M.** and Singh, J. (2018) Impact of industrial wastewaters on freshwater fish *Cyprinus carpio* (Linnaeus, 1785): a tool for ecological risks monitoring. Ann. Res. Rev. Biol. 25(3): 1-8.
- [29] Prasad, N., **Tripathi, M.**, Shukla, S., Ramteke, P. and Chandra, R. (2018) Functional properties of heavy metal tolerant probiotic strains isolated from curd. Ann. Res. Rev. Biol. 28(4): 1-11.

REVIEW ARTICLES/CHAPTER IN BOOK:

- [1] Garg, S. K. and **Tripathi, M.** (2011). Strategies for decolorization and detoxification of pulp and paper mill effluent. *Rev. Environ. Contam. Toxicol.*,212:113-136. DOI: 10.1007/978-1-4419-8453-1_4.(**Publisher: Springer-Verlag, Germany**)
- [2] Garg, S.K., **Tripathi, M.** and Srinath, T. (2012) Strategies for chromium bioremediation of tannery effluent. *Rev. Environ. Contam. Toxicol.*,217: 75-140. doi:10.1007/978-1-4614-2329-4_2 (**Publisher: Springer-Verlag, Germany**)
- [3] **Tripathi, M.** (2013) Toxic effect of hexavalent chromium on biological system. *Ind. Jour. Pl. Health*, 5(1): 28-40.
- [4] Priya, **Tripathi, M.** andYadav, S.K.(2016) Effectof toxic heavy metals on human health and their detoxification strategies. *Progressive Research-An International Journal*, 10: 1799-1801.
- [5] Yadav S.K., **Tripathi, M.**, Nayak, R. and Tomar, S.K. (2016) Plant growth promoting *Rhizobacteria* in agriculture and its uses. In: *Recent Technological Interventions in Agriculture* (Eds. Singh, R.P., Singh, R.K., Singh, M.). pp. 213-217. (ISBN No. 978-93-84215-56-9)
- [6] Garg, S.K. and **Tripathi, M.** (2017) Microbial strategies for discoloration and detoxification of azo dyes from textile effluents. *Res. J. Microbiol.*, 12: 1-19.
- [7] **Tripathi, M.**, Kumar, S. and Yadav, S.K. (2017) Rhizospheric microorganisms: a Biocontrol agent for sustainable agriculture. In: *Environmental Issues: A Multidimensional Perspective* (Ed. Tripathi, G.), (ISBN No. 978-81-8435-534-5)
- [8] Verma, T., Maurya, A., **Tripathi, M.** and Garg, S.K. (2017) Mycoremediation: an alternative treatment strategy for heavy metal-laden wastewater. In: *Developments in Fungal Biology and Applied Mycology* (Eds. Satyanarayana, T., Deshmukh, S.K., Johri, B.N.), Springer International Publishing AG, Part of Springer Nature. pp. 315-340.

- [9] Kumar, S. and **Tripathi, M.** (2017) Antibiotic resistant bacteria: a global menace. *Virol. Immunol. J.*, 1(3):000118.
- [10] **Tripathi, M.**, Singh, D.N., Vikram, S., Singh, V.S. and Kumar S. (2018) Metagenomic approach towards bioprospection of novel biomolecule(s) and environmental bioremediation. *Ann. Res. Rev. Biol.* 22(2): 1-12.
- [11] **Tripathi, M.**, Kumar, S., Kumar, A., Tripathi, P. and Kumar, S. (2018) Agrotechnology: a future technology for sustainable agriculture. *Int. J. Curr. Microbiol. Appl. Sci. Special Issue-7*: 196-200.
- [12] **Tripathi, M.**, Singh, S., Ghimire, S., Shukla, S. and Kumar, S. (2018) Effect of social media on human health. *Virol. Immunol. J.* 2(2): 000144.
- [13] Singh, P., **Tripathi, M.**, Singh, R. and Singh, P. (2018) Treatment and recycling of wastewater from sugar mill. In: *Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable* (Eds. Singh RL, Singh RP) Future, Springer, Singapore, DOI: 10.1007/978-981-13-1468-1_7.
- [14] Verma, T., Tiwari, S., **Tripathi, M.** and Ramteke, P. (2018) Treatment and recycling of wastewater from tannery. In: *Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable* (Eds. Singh RL, Singh RP) Future, Springer, Singapore, DOI: 10.1007/978-981-13-1468-1_3.
- [15] **Tripathi, M.**, Upadhyay, S., Kaur, M. and Kaur, K. (2018) Toxicity concerns of hexavalent chromium from tannery waste. *J. Biotechnol. Bioeng.* 2(2): 40-44.

CONFERENCES&WORKSHOPS

Total Conferences:12; National: 07, International: 05

Papers Presented in Conferences/Seminars

Sl.No.	Title of the paper presented	Title of the Conference/Seminar etc.	Organised by	International/ National/State/ University Level
1	Simultaneous removal of hexavalent Cr and Pentachlorophenol by <i>B. cereus</i> strain	Frontiers in Biological Sciences	Department of Biotechnology, VBS Purvanchal University, Jaunpur, India	National
2	Genetic basis of chromium bioremediation in <i>Bacillus brevis</i> isolated from tannery effluent	New Horizons in Biotechnology	The Biotech Research Society and National Institute for Interdisciplinary Science and Technology	International
3	Predictive approach ----- tannery effluent	Environmental Problems in India and Challenges to Plant Biologist	Department of Botany, UP College, Varanasi	National
4	Response Surface Modelling -----GC-MS and FTIR analyses	Health, Environment and Industrial Biotechnology	Motilal Nehru National Institute of Technology, Allahabad	International
5	Isolation and growth characteristics of chromium and pentachlorophenol----- simultaneous bioremediation.	Bioprospecting: Access for Sustainable Development	Motilal Nehru National Institute of Technology, Allahabad	National
6	Growth characteristics of chromium and pentachlorophenol----- tannery effluent	Climate Change and Its Impact on Biological Communities	Department of Environmental Sciences, Dr RML Avadh University Faizabad	National
7	Effect of toxic heavy metals on human health and their detoxification strategies	Global Research Initiatives for Sustainable Agriculture & Allied Sciences	Astha Foundation, Meerut (UP), India	National
8	Cotreatment of PCP and Cr6+ -----functional groups	Science for Rural India 2016	Vijanana Bharti, UP Chapter-III	National
9	Frontline demonstration technology-----over conventional techniques	Advancing frontiers in Biotechnology for Sustainable Agriculture and Health	Department of Molecular and Cellular Engineering with Society of Biotechnology, SHIAT, Allahabad	International
10	Decolorization of Pulp paper mill effluent ...by <i>Rouletella</i> and <i>Bacillus</i> sps.	Advances in Agriculture and Applied Sciences for Promoting Food Security	By SAID, Ranchi, Jharkhand at Kathmandu, Nepal	International

11.	Application of rhizospheric microorganisms in agriculture and their antiphytopathogenic activity	Doubling farmers income for sustainable and harmonious agriculture	Science and Tech Society for Integrated Rural Development, Patna (2018)	National
12.	Decolorization of orange II dye by native <i>Bacillus</i> sp. and <i>Staphylococcus</i> sp. from textile effluent	International Conference on Food and Agriculture (ICFA-2018)	Endling Conferences, Dhanbad (29 to 31 st March, 2018)	International

Invited Lectures in Conference/Seminar

Sl. No.	Title of the Lecture	Title of the Conference/Seminar etc.	Organised by	Whether International/ National/State/ University Level
1	Microbes: Friends vs. Foes	Advance Trends in Sciences	Dr. Lohia Mahila P.G. College, Kuchera-Faizabad	University Level

Workshops: 03

[1] Workshop on “**Characterization of Microbial Communities Associated with Polluted Environments using Polyphasic Approach**” organized by Microbial Type Culture Collection (MTCC) and Gene Bank, Institute of Microbial Technology, Chandigarh, India during 7-16 Feb., 2010.

[2] Workshop on “**Advanced Analytical Techniques**” organized by Sophisticated Analytical Instrumentation Facility, Indian Institute of Technology, Bombay, India during 26-29 March, 2012.

[3] Workshop organized by **National Academy of Science India (NASI)** at Jhunjhunwala P.G. College, Faizabad.

Refresher Course/Training Program: 02

- On “Entrepreneurship” Organized by Department of Science and Technology at at Jhunjhunwala P.G. College, Faizabad.
- Science Academeis refresher course during 4 to 19thJan,2018 at St. Joseph College, Trichy.

LAB EXPOSURE AND EXPERTISE

- **Microbiology:** Media preparation, isolation, maintenance and culture of bacteria, fungi and yeast, staining of bacteria (negrosin staining and Gram-staining), chemical

mutagenesis of bacterial and fungal strains, bench scale fermentation, cell and enzyme immobilization.

- **Molecular Biology:** Isolation of DNA, SDS-PAGE, Plasmid isolation.
- **Biochemistry:** Biochemical Estimation of proteins, carbohydrates, Enzyme Assay, production and purification of enzymes from fungal and bacterial isolates.
- **Analytical Techniques:** Microscopy, UV-Vis Spectrophotometry, Chromatography, AAS.
- **Computer acquaintance:** Windows, MS office (Word, Power point, Excel), working knowledge of adobe photoshop, paint, Design Expert software for Response Surface Methodology.

LIST OF REFEREES:

1. Dr. Shailendra Kumar
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Dr. Rammanohar Lohia Avadh University, Faizabad, U.P., India-224001
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2. Dr. S.K. Garg
Professor, Department of Microbiology
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3. Dr. Farrukh Jamal
Professor, Department of Biochemistry
Dr. Rammanohar Lohia Avadh University, Faizabad, U.P., India-224001
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Contact No: +919415075554

DECLARATION:

I hereby declare that the above mentioned information is true to best of my knowledge and belief.

Place: Faizabad

(Manikant Tripathi)