



School: Interdisciplinary Education & Research

Department: Biotechnology

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<https://scholar.google.com/citations?user=20Iq6VcAAAAJ&hl=en>

Dr. Rajat Pratap Singh

Qualifications: M.Sc., Ph.D.

Area of Interest/Specialization: Environmental Biotechnology, Bioremediation, Microbial Technology, Bioactive Compounds.

Experience –

August 09, 2019 to till date

Assistant Professor

Department of Biotechnology
Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.)

December 28, 2008 (Session 2008-09) to
July 31, 2019 (Session 2018-19)

Guest Faculty

Department of Biotechnology
Dr. Rammanohar Lohia Avadh University,
Ayodhya, (U.P.)

June 11, 2010 to September 11, 2015

Research Scholar (Ph. D.)

Department of Biochemistry
Dr. Rammanohar Lohia Avadh University,
Ayodhya, (U.P.)

September 07, 2005 to March 24, 2008

Junior Research Fellow (JRF)

National Bureau of Agriculturally Important
Microorganisms (NBAIM), Kushmaur, Mau
(U.P.)

Awards and Honors:

- CSIR-UGC-NET December - 2013 (Life Sciences) (All India Rank: 50)
- ICAR-ASRB-NET-2010 (Basic Plant Science)
- GATE-2008 (Life Sciences) (97.46 Percentile)
- GATE-2005 (Life Sciences) (86.01 Percentile)

Best Peer Reviewed Publication:

1. Pathak N, Singh P, Singh PK, Sharma S, **Singh RP**, Gupta A, Mishra R, Mishra VK, Tripathi M (2022). Biopolymeric Nanoparticles based Effective Delivery of Bioactive Compounds towards the Sustainable Development of Anticancerous Therapeutics. *Frontiers in Nutrition Sec. Nutrition and Food Science Technology*, 9: 963413 (DOI: 10.3389/fnut.2022.963413) (**Impact Factor:** 6.590) (**Google Scholar Citation:** 05).
2. Mehta A, Kumar Ratre Y, Sharma K, Soni VK, Tiwari AK, **Singh RP**, Dwivedi MK, Chandra V, Prajapati SK, Shukla D, Vishvakarma NK (2021). Interplay of Nutrition and Psychoneuroendocrineimmune Modulation: Relevance for COVID-19 in BRICS Nations. *Frontiers in Microbiology Sec. Virology*, 12: 769884. (DOI: 10.3389/fmicb.2021.769884) (**Impact Factor:** 6.064)
3. Singh PK, **Singh RP**, Singh P, Singh RL (2021). Efficient decolorization of dye Acid Blue 113 by Soil Bacterium *Bacillus subtilis* RMLP2. *Toxicology International*, 28(3): 269-280. (DOI: 10.18311/ti/2021/v28i3/27736).
4. Singh PK, Singh P, **Singh RP**, Singh RL (2021). Biodecolorization of Azo Dye Acid Blue 113 by Soil Bacterium *Klebsiella variicola* RMLP1. *Journal of Ecophysiology and Occupational Health*, 21(2): 64-71 (DOI: 10.18311/jeoh/2021/27108).
5. Soni VK, Mehta A, Ratre YK, Tiwari AK, Amit A, **Singh RP**, Sonkar SC, Chaturvedi N, Shukla D, Vishvakarma NK (2020). Curcumin, a traditional spice component, can hold the promise against COVID-19? *European Journal of Pharmacology*, 886, 173551. (DOI: 10.1016/j.ejphar.2020.173551) (**Impact Factor:** 5.195) (**Google Scholar Citation:** 91).
6. **Singh RP**, Singh PK, Singh RL (2017). Role of Azoreductases in Bacterial Decolorization of Azo Dyes. *Current Trends in Biomedical Engineering & Biosciences*, 9(3): 555764. (DOI: 10.19080/CTBEB.2017.09.555764) (**Google Scholar Citation:** 13).
7. **Singh RP**, Singh PK, Singh RL (2017). Present Status of Biodegradation of Textile Dyes. *Current Trends in Biomedical Engineering & Biosciences*, 3(4): 555618. (DOI: 10.19080/CTBEB.2017.03.555618) (**Google Scholar Citation:** 12).
8. Tripathi VK, Kumar V, Pandey A, Vatsa P, Dhasmana A, **Singh RP**, Appikonda SHC, Hwang I, Lohani M (2017). Monocrotophos induces the expression of xenobiotic metabolizing cytochrome P450s (CYP2C8 and CYP3A4) and neurotoxicity in human brain cells. *Molecular Neurobiology*, 54(5): 3633-3651. (DOI: 10.1007/s12035-016-9938-7) (**Impact Factor:** 5.682) (**Google Scholar Citation:** 26).
9. Singh RL, Singh PK, **Singh RP** (2015). Enzymatic Decolorization and Degradation of Azo Dyes – A Review. *International Biodeterioration & Biodegradation*, 104: 21-31. (DOI: 10.1016/j.ibiod.2015.04.027) (**Impact Factor:** 4.907) (**Google Scholar Citation:** 510).

10. Singh RP, Singh PK, Singh RL (2014). Bacterial decolorization of textile azo dye Acid Orange by *Staphylococcus hominis* RMLRT03. *Toxicology International*, 21(2): 160-166. (DOI: 10.4103/0971-6580.139797) (Google Scholar Citation: 152).
11. Jyotsana, Srivastava A, Singh RP, Srivastava AK, Saxena AK, Arora DK (2008). Growth Promotion and Charcoal Rot Management in Chickpea by *Trichoderma harzianum*. *Journal of Plant Protection Research*, 48(1): 557-568. (DOI: 10.2478/v10045-008-0009-6) (Google Scholar Citation: 25).

Recent Books/Book Chapters/Monographs:

Books:

1. Singh RL, Singh PK, Singh RP (2019). Recent Advances in Decolorization and Degradation of Dyes in Textile Effluent by Biological Approaches, CRC Press (Taylor & Francis Group), Boca Raton, London, New York, p. 88. (DOI: <https://doi.org/10.1201/9780429244322>) (Google Scholar Citation: 02).
2. Singh RL, Singh RP (eds.) (2019). Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future, Springer Nature, Singapore, p. 361. (DOI: <https://doi.org/10.1007/978-981-13-1468-1>) (Google Scholar Citation: 38).

Book Chapters:

1. Singh PK, Singh P, Singh RP, Singh RL. (2022). Transgenesis in Plants: Principle and Methods. In: Singh RL, Mondal S, Parihar A, Singh PK. (eds) Plant Genomics for Sustainable Agriculture. Springer, Singapore. pp. 41–70. (DOI: https://doi.org/10.1007/978-981-16-6974-3_3).
2. Soni VK, Amit A, Chandra V, Singh P, Singh PK, Singh RP, Patel GK, Singh RP* (2022). Role of food additives and intestinal microflora in colorectal cancer. In: Shukla D., Vishvakarma N.K., Nagaraju G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. pp. 307-324. (DOI: https://doi.org/10.1007/978-3-030-72702-4_14) (Google Scholar Citation: 01)
3. Chandra V, Tiwari A, Singh RP, Desai KV (2022) Therapeutic Intervention of Signaling Pathways in Colorectal Cancer. In: Shukla D., Vishvakarma N.K., Nagaraju G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. Springer, Cham. Pp. 143-171. (DOI: https://doi.org/10.1007/978-3-030-72702-4_8).
4. Amit A, Yadav S, Singh RP, Kumar C (2022) Development of RNA-Based Medicine for Colorectal Cancer: Current Scenario. In: Shukla D., Vishvakarma N.K., Nagaraju G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. Springer, Cham. pp 339-360. (DOI: https://doi.org/10.1007/978-3-030-72702-4_16).
5. Soni VK, Mehta A, Ratre YK, Kumar C, Singh RP, Srivastava AK, Chaturvedi N, Shukla D, Pandey SK, Vishvakarma NK (2022) Antineoplastic Effects of Curcumin Against Colorectal Cancer: Application and Mechanisms. In: Shukla D., Vishvakarma

N.K., Nagaraju G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. Springer, Cham. pp. 383-426. (DOI: https://doi.org/10.1007/978-3-030-72702-4_18).

6. Mehta A, Soni VK, Ratre YK, **Singh RP**, Shukla D, Vishvakarma NK, Rai RK, Chaturvedi N (2021). Short-Chain Fatty Acids as Therapeutic Agents in Colon Malignancies. In: Nagaraju, G.P., Shukla, D., Vishvakarma, N.K. (eds) Colon Cancer Diagnosis and Therapy Vol. 1. Springer, Cham, pp. 195-218. (DOI: https://doi.org/10.1007/978-3-030-63369-1_10).
7. Kumar C, **Singh RP**, Dwiwedi MK, Amit A (2021). Immuno-modulating Mediators of Colon Cancer as Immuno-therapeutic: Mechanism and Potential In: Nagaraju GP, Shukla D, Vishvakarma NK. (eds) Colon Cancer Diagnosis and Therapy Vol. 1. Springer, Cham, pp. 271-308. (DOI: https://doi.org/10.1007/978-3-030-63369-1_14).
8. Singh PK, Singh P, **Singh RP**, Singh RL (2021). From gene to genomics: tools for improvement of animals, In: Singh RL, Mondal S. (eds), Advances in Animal Genomics. Elsevier (Woodhead Publishing), USA, pp. 13-32. (DOI: <https://doi.org/10.1016/B978-0-12-820595-2.00002-3>).
9. Singh PK, **Singh RP**, Singh P, Singh RL (2019). Food Hazards: Physical, Chemical and Biological, In: Singh RL, Mondal S. (eds), Food Safety and Human Health. Elsevier (Woodhead Publishing), USA, pp. 15-65. (DOI: <https://doi.org/10.1016/B978-0-12-816333-7.00002-3>) (**Google Scholar Citation:** 30).
10. Gupta R, Gupta A, **Singh RP**, Singh PK, Singh RL (2019). Food Allergies, In: Singh RL, Mondal S. (eds), Food Safety and Human Health. Elsevier (Woodhead Publishing), USA, pp. 99-125. (DOI: <https://doi.org/10.1016/B978-0-12-816333-7.00004-7>) (**Google Scholar Citation:** 02).
11. Singh RL, **Singh RP** (2019). Introduction, In: Singh RL, Singh RP. (eds), Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future. Springer Nature, Singapore, pp. 1-11. (DOI: https://doi.org/10.1007/978-981-13-1468-1_1).
12. **Singh RP**, Singh PK, Gupta R, Singh RL (2019). Treatment and recycling of wastewater from textile industry, In: Singh RL, Singh RP. (eds), Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future. Springer Nature, Singapore, pp. 225-266. (DOI: https://doi.org/10.1007/978-981-13-1468-1_8) (**Google Scholar Citation:** 36).
13. Singh PK, Tripathi M, **Singh RP**, Singh P (2019). Treatment and recycling of wastewater from sugar mill, In: Singh RL, Singh RP. (eds), Advances in Biological Treatment of Industrial Waste Water and their Recycling for a Sustainable Future. Springer Nature, Singapore, pp. 199-224 (DOI: https://doi.org/10.1007/978-981-13-1468-1_7) (**Google Scholar Citation:** 06).

14. **Singh RP**, Singh PK, Gupta R, Singh RL (2018). Biotechnological Tools to Enhance Sustainable Production, In: Singh RL, Mondal S. (eds), Biotechnology for Sustainable Agriculture. Elsevier (Woodhead Publishing), USA, pp. 19-66. (DOI: <http://dx.doi.org/10.1016/B978-0-12-812160-3.00002-7>) (Google Scholar Citation: 09).
15. Umesha S, Singh PK, **Singh RP** (2018). Microbial biotechnology and sustainable agriculture, In: Singh RL, Mondal S. (eds), Biotechnology for Sustainable Agriculture. Elsevier (Woodhead Publishing), USA, pp. 185-205. (DOI: <http://dx.doi.org/10.1016/B978-0-12-812160-3.00006-4>) (Google Scholar Citation: 102).
16. Sharma VP, Singh RL, **Singh RP** (2017). Degradable Polymers and Plastics of the Future: Steps Toward Environmental Sustainability, Regulations, and Safety Aspects, In: Singh RL. (ed), Principles and Applications of Environmental Biotechnology for a Sustainable Future. Springer, Singapore, pp. 267-287. (DOI: https://doi.org/10.1007/978-981-10-1866-4_15) (Google Scholar Citation: 03).
17. Singh RL, Gupta R, **Singh RP** (2015). Microbial Degradation of Textile Dyes for Environmental Safety, In: Chandra R. (ed), Advances in Biodegradation and Bioremediation of Industrial Waste. CRC Press, Taylor & Francis Group, Boca Raton, pp. 249-285. (DOI: <https://doi.org/10.1201/b18218-14>) (Google Scholar Citation: 08).

Research Supervision:

- PG Dissertation supervised: 23
- Ph.D. Registered: 02

Administrative Responsibilities:

- Programme Officer (NSS), Biotechnology Unit
- Member, Research Advisory Committee
- Departmental Criteria Coordinator, NAAC
- Member, Departmental Purchase Committee
- Member of Proctorial Board (26.02.2020 to 03.08.2022)
- Member of Diary and Calendar Committee
- Counting Officer, Students' Council Election, 2019-2020

Additional Information:

- Joint Organizing Secretary – National Workshop on Molecular Diagnostics: Advances & Applications-2022 [MDAA-2022] 03-09 November, 2022 at Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Supported by: DST-SERB.
- Joint Organizing Secretary –National Workshop on Animal Cell Culture: Techniques and Applications-2022 [ACCTA-2022] 16-22 Feb, 2022 at Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Supported by: DST-SERB; DRDO.
- Reviewer for various Journals such as; Peer J, Energies, Sustainability