

Dr. PRATISHTHA GUPTA

Date of Birth 13th October 1990
Nationality Indian
Email pratishthabiotech6@gmail.com;

Experience

- Assistant Professor (Environmental Science) at RPM College, Patliputra University (Feb. 2026 – Present)
- Research Associate in Oversight Committee, National Green Tribunal, Lucknow, U.P. (From 23.10.2020 to 31.10.2022).

Contribution in Teaching

- **Nodal Officer** One Nation One Subscription Scheme in RPM College.
- **Website Organizer** at RPM College.

Education

- Ph.D. Environmental Sciences (2015-2020)
Indian Institute of Technology (Indian School of Mines),
Department of Environmental Science and Engineering.
Ph.D. Thesis: Microbial assisted Phytoremediation and assay of chromate reductase enzyme activity in effective remediation of hexavalent chromium from contaminated agricultural soils.
Supervisor: Dr. Vipin Kumar
- M.Sc. in Environmental Sciences, CGPA 7.75/10 (2012-2014)
Babasaheb Bhimrao Ambedkar University (Central University)
M.Sc. Thesis: Value added Phytoremediation of Inorganic pollutants from wastewater coupled with Biogas production using *Eichhornia crassipes* and *Pistia stratiotes*
Supervisor: Prof. R.P. Singh
- B.Sc. Biotechnology, 1st Class (70%) (2009-2012)
Chhatrapati Shahu Ji Maharaj University
- Class XII, 1st Class (84%)
Board: ISC; School: City Montessori School
- Class X, 1st Class (78%)
Board: ICSE; School: City Montessori School

Awards and Honors

- Received Inder Mohan Thapar Research Award-2020.
- Dora Pluss Research Grant, Tallinn University of Technology, Tallinn, Estonia.
- Qualified UGC-NET (LS) in Environmental Science (Dec. 2014).

- Best Poster in International Symposium on Microbes for Sustainable Development: Scope and Applications organized by Association of Microbiologists of India.

Domains, Skills and Expertise

Domains: Bioremediation; Phytoremediation; Plant Growth Promoting Rhizobacteria; Plant-microbe interactions; Sustainable Agriculture; Microbial Degradation; Microbial Diversity and Screening; Enzyme Extraction, Microbial genome sequencing; Enzyme Kinetics.

Skills: Atomic Absorption Spectrophotometer; High Phase Liquid Chromatography; Nuclear Magnetic Resonance, Scanning Electron Microscopy; Fourier Transform Infrared Spectroscopy; Spectrophotometry; Microbial Assays; Antioxidative Enzyme Assays, Phylogenetic studies.

Expertise: SPSS, Kinetics Models, Origin, MEGA, Topspin.

Journal Publications

1. **Gupta P.**, Kumar V., Usmani Z., Rani R., Chandra A., Gupta V.K. 2020. Implications of plant growth promoting *Klebsiella* sp. CPSB4 and *Enterobacter* sp. CPSB49 in luxuriant growth of tomato plant under chromium stress. *Chemosphere* 240. <https://doi.org/10.1016/j.chemosphere.2019.124944> (IF 8.943)
2. **Gupta P.**, Kumar V., Usmani Z., Rani R., Chandra A., Gupta V.K. 2019. A comparative evaluation towards the potential of *Klebsiella* sp. and *Enterobacter* sp. in plant growth promotion, oxidative stress tolerance and chromium uptake in *Helianthus annuus* (L.). *Journal of Hazardous Materials* 377: 391-398. <https://doi.org/10.1016/j.jhazmat.2019.05.054>. (IF 14.224)
3. **Gupta P.**, Kumar V., Usmani Z., Rani R., Chandra A. 2018. Phosphate solubilization and chromium (VI) remediation potential of *Klebsiella* sp. strain CPSB4 isolated from the chromium contaminated agricultural soil. *Chemosphere*. 192: 318-327. <https://doi.org/10.1016/j.chemosphere.2017.10.164>. (IF 8.943)
4. **Gupta P.**, Rani R., Kumar V., Chandra A. 2018. Potential applications of *Pseudomonas* sp. (strain CPSB21) to ameliorate Cr⁶⁺ stress and phytoremediation of tannery effluent contaminated agricultural soils. *Scientific Reports*. 8: 4860. <https://doi.org/10.1038/s41598-018-23322-5>. (IF 4.379)
5. **Gupta P.**, Kumar V. 2017. Value added phytoremediation of metal stressed soils using phosphate solubilizing microbial consortium. *World Journal of Microbiology and Biotechnology*. 33: 9. <https://doi.org/10.1007/s11274-016-2176-3> (IF 4.253)
6. Singh, S., Kumar, V., **Gupta, P.**, Ray, M., Singh A., 2021. An implication of biotransformation in detoxification of mercury contamination by *Morganella* sp. strain IITISM23. *Environmental Science and Pollution Research*, 28, 1-17. <https://doi.org/10.1007/s11356-021-13176-2>. (IF 5.190)

7. Singh, S., Kumar, V., **Gupta, P.**, Ray, M., Kumar, A., 2021. The synergy of mercury biosorption through *Brevundimonas* sp. IITISM22: Kinetic, isotherm and thermodynamic modeling. *Journal of Hazardous Materials*, 415:125653. <https://doi.org/10.1016/j.jhazmat.2021.125653>. (IF 14.224).
8. Rani, R., Kumar, V., **Gupta, P.**, Chandra, A., 2021. Potential use of *Solanum lycopersicum* and plant growth promoting rhizobacterial (PGPR) strains for the phytoremediation of endosulfan stressed soils. *Chemosphere*, 279: 130589. <https://doi.org/10.1016/j.chemosphere.2021.130589>. (IF 8.943)
9. Usmani, Z., Sharma, M., **Gupta, P.**, Karpichev, Y., Gathergood, N., Bhat, R., Gupta, V.K. 2020. Ionic liquid based pretreatment of lignocellulosic biomass for enhanced bioconversion. *Bioresource Technology*, 123003. <https://doi.org/10.1016/j.biortech.2020.123003>. (IF 11.889)
10. Rani R., Kumar V., **Gupta P.**, Chandra A. 2019. Effect of endosulfan tolerant bacterial isolates (*Delftia lacustris* IITISM30 and *Klebsiella aerogenes* IITISM42) with *Helianthus annuus* on remediation of endosulfan from contaminated soil. *Ecotoxicity and Environmental Safety*, 168:315-323 (IF 7.129)
11. Rani R., Kumar V., Usmani Z., **Gupta P.**, Chandra A. 2019. Influence of plant growth promoting rhizobacterial strains *Paenibacillus* sp. IITISM08, *Bacillus* sp. PRB77 and *Bacillus* sp. PRB101 using *Helianthus annuus* on degradation of endosulfan from contaminated soil. *Chemosphere*. 225:479-489. (IF 8.943)
12. Rani R., Usmani Z., **Gupta P.**, Kumar V., Chandra A., Das A. 2017. Effects of organochlorine pesticides on plant growth-promoting traits of phosphate solubilizing rhizobacterium, *Paenibacillus* sp. IITISM08. *Environmental Science and Pollution Research*. 25(6): 5668-5680. <https://doi.org/10.1007/s11356-017-0940-z>. (IF 5.190)
13. Usmani Z., Kumar V., Rani R., **Gupta P.**, Chandra A. 2018. Changes in physico-chemical, microbiological and biochemical parameters during composting and vermicomposting of coal fly ash: a comparative study. *International Journal of Environmental Science and Technology*. <https://doi.org/10.1007/s13762-018-1893-6> (IF 3.519)
14. Usmani Z., Kumar V., Gupta G., **Gupta P.**, Rani R., Chandra V. 2019. Enhanced soil fertility, plant growth promotion and microbial enzymatic activities of vermicomposted fly ash *Nature Scientific Reports* 9, 10455:1979. <https://doi.org/10.1038/s41598-019-46821-5> (IF 4.379)
15. Ray M., Kumar V., Banerjee C., Gupta P., Singh S., Singh A. 2020. Investigation of biosurfactants produced by three indigenous bacterial strains, their growth kinetics and their anthracene and fluorene tolerance. *Ecotoxicology and Environmental Safety*. <https://doi.org/10.1016/j.ecoenv.2020.111621> (IF 7.129)

Book Chapters

1. **Gupta P.**, Kumar, V., Rani R. 2022. The role of plant-associated bacteria as biostimulants in alleviation of chromium toxicity in plants. In *New and Future Developments in Microbial Biotechnology and Bioengineering*. Elsevier.
2. **Gupta P.**, Rani R., Chandra A., Varjani S., Kumar V. 2019. The Role of Microbes in Chromium Bioremediation of Tannery Effluent. In *Water and Wastewater Treatment Technologies. Energy, Environment, and Sustainability*. Springer, Singapore.
3. **Gupta, P.**, Rani, R., Usmani, Z., Chandra, A., Kumar, V., 2019. The Role of Plant-Associated Bacteria in Phytoremediation of Trace Metals in Contaminated Soils. In *New and Future Developments in Microbial Biotechnology and Bioengineering*, Elsevier.
4. **Gupta P.**, Rupa R., Chandra A., Varjani S.J., Kumar V., 2018. Effectiveness of Plant growth Promoting Rhizobacteria in Phytoremediation of Chromium Stressed Soils. In: *Varjani S., Gnansounou E., Gurunathan B., Pant D., Zakaria Z.A. (eds) Bioremediation: Waste Bioremediation: Energy, Environment and Sustainability*. Springer, Singapore.
5. Rani, R., Kumar, V., **Gupta, P.**, 2022. Plant-growth promoting rhizobacteria-assisted bioremediation of toxic contaminant: recent advancement and applications. In *New and Future Developments in Microbial Biotechnology and Bioengineering*. Elsevier.
6. Rani, R., Kumar, V., **Gupta, P.**, Chandra, A., 2021. The role of plant growth promoting bacteria in mineralization of endosulfan and its metabolites. In *Microbes in Land Use Change Management*. Elsevier.
7. Usmani, Z., Rani, R., **Gupta, P.**, Prasad, M.N.V., 2020. Vermiremediation remediation of agrochemicals. In *Agrochemicals Detection, Treatment and Remediation*. Butterworth-Heinemann.
8. Usmani, Z., Kumar, V., Varjani, S., **Gupta, P.**, Rani, R., Chandra, A., 2020. Municipal solid waste to clean energy system: a contribution toward sustainable development. In *Current Developments in Biotechnology and Bioengineering*, Elsevier.
9. Rani, R., Kumar, V., **Gupta, P.** Chandra, A., 2019. Application of plant growth promoting rhizobacteria in remediation of pesticides contaminated stressed soil. In *New and Future Developments in Microbial Biotechnology and Bioengineering*, Elsevier.

International Research Experience

- Five months research experience in **Tallinn University of Technology, Tallinn, Estonia (granted by European Union)** from July 15, 2018 to December 14, 2018.

Conferences Papers/Posters

- International Conference on Plant Protection in Horticulture: Advances and Challenges organized by Association for Advancement of Pest Management in Horticultural Ecosystem, ICAR: Indian Institute of Horticultural Research from July 24-27, 2019.
- International Conference on Microbes for Sustainable Development: Scope and Applications organized by Association of Microbiologists of India from November 16-19, 2017.

Languages Known

English and Hindi