

Curriculum vitae

Name: **Dr. Ravi Kumar Yadav**

डॉ. रवि कुमार यादव

Designation: Assistant Professor

Department: Botany, Kashi Naresh Govt. Post Graduate College, Gyanpur, Bhadohi, U.P. 221304.

Qualification: M.Sc. (Botany), Ph.D, CSIR- NET, JRF, GATE, ARS-NET

Date of Birth: 20/03/1992

Mob: +918565006288

Email: yadavravigpcr@gmail.com

Topic of the thesis: “**Green synthesis of nanoparticles and their effects on crop plants exposed to abiotic stress**”

Research Interests:

- Plant Physiology and Biochemistry
- Abiotic Stress Physiology in Higher Plants
- Plant–Nanoparticle Interactions
- Green Synthesis of Nanoparticles
- Applications of Nanotechnology in Plant Science

Teaching Experience:

- **Assistant Professor of Botany**, Government Autonomous Post Graduate College, Satna, Madhya Pradesh – 485001, affiliated to Awadhesh Pratap Singh University, Rewa, M.P.
- **Assistant Professor of Botany**, Kashi Naresh Govt. Post Graduate College, Gyanpur, Bhadohi, Uttar Pradesh – 221304.

Academic & Institutional Contributions:

- **Innovation Ambassador**, Institute Innovation Council (IIC), Government of India.
- **Expert Member**, District Clean Ganga Mission, Bhadohi (2021–2023).
- **Expert Member**, District Environment Committee, Bhadohi (2021–2023).

Professional Memberships

1. **Indian Science Congress Association** – Life Member (L37876)
2. **Indian Botanical Society (IBS)** – Life Member (2257)

Academic Achievements & Scholarships

- **Merit-cum-Means Scholarship**, Graduation – **2011–12**
- **Junior Research Fellowship (JRF)** – **2016**

Publications:

Research paper

1. **Yadav, Ravi Kumar**, N. B. Singh, Ajey Singh, Vijaya Yadav, K. M. Niharika, and Shubhra Khare. "Bio-based synthesis of nano silver using *Tridax procumbens* leaf extract and its impacts on germination and metabolic activity of *Solanum lycopersicum* L." *Journal of Plant Biochemistry and Biotechnology* 30, no. 3 (2021): 602-607. <https://doi.org/10.1007/s13562-020-00629-x> 1. ISSN- 0971-7811, 0974-1275.
2. **Yadav, Ravi Kumar**, Narsingh Bahadur Singh, Ajey Singh, Vijaya Yadav, Shubhra Khare, and Zeba Azim. "Role of Bio-Based Synthesized Nanozinc Oxide in Ameliorating the Deleterious Effects Caused by Lead in *Vigna radiata* L." *Applied Biochemistry and Biotechnology* 194, no. 5 (2022): 2005-2020. <https://doi.org/10.1007/s12010-022-03801-2>, ISSN- 1559-0291.
3. Singh, Narsingh Bahadur, Shubhra Khare, Ajey Singh, Vijaya Yadav, and **Ravi Kumar Yadav**. "Kinetin modulates physiological and biochemical attributes of *Vigna radiata* L. seedlings exposed to 2-benzoxazolinone stress." *Biologia* 76, no. 5 (2021): 1377-1389. <https://doi.org/10.1007/s11756-021-00734-9>. ISSN- 0006-3088.
4. Niharika., N. B. Singh, Shubhra Khare, Ajey Singh, Vijaya Yadav, and **Ravi Kumar Yadav**. "Attenuation of vanillic acid toxicity by foliar application with indole-3-acetic acid in tomato seedlings." *International Journal of Vegetable Science* (2021): 1-22., <https://doi.org/10.1080/19315260.2021.1935387> ISSN 1931-5279, ISSN-1447-6959. 2.3 (2021).
5. Singh, Narsingh Bahadur, Shubhra Khare, Ajey Singh, Vijaya Yadav, and **Ravi Kumar Yadav**. "Salicylic acid and Indole acetic acid synergistically ameliorates Ferulic acid toxicity in *Brassica juncea* L. seedlings." *Plant Physiology Reports* 26, no. 4 (2021): 729-740. <https://doi.org/10.1007/s40502-021-00617-w> , ISSN- 2662-253X.
6. Khare, Shubhra, N. B. Singh, Ajey Singh, Nimisha Amist, Zeba Azim, and **Ravi Kumar Yadav**. "Phytochemicals mitigation of *Brassica napus* by IAA grown under Cd and Pb toxicity and its impact on growth responses of *Anagallis arvensis*." *Journal of Biotechnology* 343 (2022): 83-95. <https://doi.org/10.1016/j.jbiotec.2021.12.001> , ISSN- 0168-1656.

7. Khare, Shubhra, N. B. Singh, Ajey Singh, Nimisha Amist, Zeba Azim, and **Ravi Kumar Yadav** (2022) Salinity-Induced Attenuation in Secondary Metabolites Profile and Herbicidal Potential of *Brassica nigra* L. on *Anagallis arvensis* L.. Journal of Plant Growth Regulation. <https://doi.org/10.1007/s00344-022-10607-3>, ISSN- 0721-7595 / 1435-8107.
8. Azim, Zeba, N. B. Singh, Shubhra Khare, Ajey Singh, Nimisha Amist, **Ravi Kumar Yadav**, and Imtiyaz Hussain. "Potential role of biosynthesized zinc oxide nanoparticles in counteracting lead toxicity in *Solanum lycopersicum* L." *Plant Nano Biology* (2022): 100012. <https://doi.org/10.1016/j.plana.2022.100012> , ISSN- 2773-1111.
9. Azim, Zeba, N. B. Singh, Shubhra Khare, Ajey Singh, Nimisha Amist, and Ravi Kumar Yadav. "Green synthesis of zinc oxide nanoparticles using *Vernonia cinerea* leaf extract and evaluation as nano-nutrient on the growth and development of tomato seedling." *Plant Nano Biology* (2022): 100011. <https://doi.org/10.1016/j.plana.2022.100011> ISSN- 2773-1111.
10. Singh, Nishant, Manish Kumar Singh, **Ravi Kumar Yadav**, and Zeba Azim. "Role of green synthesized nano iron oxide in alleviating the cadmium toxicity in *Brassica oleracea* var. *italica* seedlings." *Plant Nano Biology* 6 (2023): 100055. <https://doi.org/10.1016/j.plana.2023.100055>
11. Mehdi Jafar, **Ravi Kumar Yadav**, Anil Kumar Gupta. "Analysis of pollen in honey samples in the district of Prayagraj, India, Current Botany, doi:10.25081/cb.2023.v14.8250
12. Singh, N., Singh, M.K., **Yadav, R.K. et al.** Green synthesis and characterization of nano zinc oxide and comparative study of its impact on germination and metabolic activities of *Solanum lycopersicum* L. and *Capsicum annuum* L. *Vegetos* (2024). <https://doi.org/10.1007/s42535-024-00838-y>
13. Singh, Nishant, Manish Kumar Singh, Jyotsna Raghuvansi, **Ravi Kumar Yadav**, and Zeba Azim. "Green synthesis of nano iron oxide using *Emblica officinalis* L. fruit extract and its impact on growth, chlorophyll content, and metabolic activity of *Solanum lycopersicum* L." *J. Appl. Biol. Biotechnol* 12 (2024): 173-181.

Review articles:

1. **Yadav, Ravi Kumar**, N. B. Singh, Ajey Singh, Vijaya Yadav, Chanda Bano, and Shubhra Khare. "Expanding the horizons of nanotechnology in agriculture: Recent advances, challenges and future perspectives." *Vegetos* 33, no. 2 (2020): 203-221. <https://doi.org/10.1007/s42535-019-00090-9> ISSN- 2229-4473.
2. Khare, Shubhra, N. B. Singh, Ajey Singh, Imtiyaz Hussain, Km Niharika, Vijaya Yadav, Chanda Bano, **Ravi Kumar Yadav**, and Nimisha Amist. "Plant secondary metabolites synthesis and their regulations under biotic and abiotic constraints." *Journal of Plant Biology* 63, no. 3 (2020): 203-216. <https://doi.org/10.1007/s12374-020-09245-7> ISSN- 1226-9239.
3. Singh, Narsingh Bahadur, Ajey Singh, Shubhra Khare, Vijaya Yadav, Chanda Bano, and **Ravi Kumar Yadav**. "Mitigating strategies of gibberellins in various environmental cues and their crosstalk with other hormonal pathways in plants: a review." *Plant Molecular Biology Reporter* 39, no. 1 (2021): 34-49. <https://doi.org/10.1007/s11105-020-01231-0> ISSN- 1572-9818.
4. Azim, Zeba, N. B. Singh, Ajey Singh, Nimisha Amist, Shubhra Khare, **Ravi Kumar Yadav**, Chanda Bano, and Vijaya Yadav. "A review summarizing uptake, translocation and accumulation of nanoparticles within the plants: current status and future prospectus." *Journal of Plant Biochemistry and Biotechnology* (2022): 1-14. <https://doi.org/10.1007/s13562-022-00800-6>, ISSN- 0974-1275.
5. Kumar, Amit, **Ravi Kumar Yadav**, Vinay Kumar, Tara C. Yadav, and Payal Gupta. "Exploring the potential of rhizosphere microbial biofilms for promoting plant growth." *Discover Plants* 3, no. 1 (2026): 157.

Book Chapter Published:

1. Singh, Ajey, N. B. Singh, Vijaya Yadav, Chanda Bano, Shubhra Khare, and **Ravi Kumar Yadav**. "Nod factor signaling in legume-Rhizobium symbiosis: Specificity and molecular genetics of nod factor signaling." In *Abiotic Stress and Legumes*, pp. 33-67. Academic Press, 2021. <https://doi.org/10.1016/B978-0-12-815355-0.00003-5> ISBN- 978-0-12-815355-0.
2. **Yadav, Ravi Kumar**, Amit Kumar Singh, N. B. Singh, Niharika Singh, Shubhra Khare, and Abhay K. Pandey. "Green Synthesized Nanoparticle-Mediated Wastewater Treatment." In *Emerging Eco-friendly Green Technologies for*

- Wastewater Treatment*, pp. 299-309. Springer, Singapore, 2020.
https://doi.org/10.1007/978-981-15-1390-9_13 ISBN- 978-981-15-1390-9.
3. Singh, Amit Kumar, Harvesh Kumar Rana, **Ravi Kumar Yadav**, and Abhay K. Pandey. "Dual role of microalgae: phycoremediation coupled with biomass generation for biofuel production." In *Restoration of wetland ecosystem: a trajectory towards a sustainable environment*, pp. 161-178. Springer, Singapore, 2020.
https://doi.org/10.1007/978-981-13-7665-8_11 ISBN- 978-981-13-7665-8.
 4. Yadav, Tara Chand, Pallavi Saxena, Amit Kumar Srivastava, Amit Kumar Singh, **Ravi Kumar Yadav**, R. Prasad, and Vikas Pruthi. "Potential applications of chitosan nanocomposites: recent trends and challenges." *Advanced Functional Textiles and Polymers: Fabrication, Processing and Applications* (2019): 365-403.
doiI:10.1002/978111960584 3 ISBN-9781119605843.
 5. **Kumar Yadav, Ravi**, Shefali Singh, Zeba Azim, Niraj Kumar Goswami, and Navneet Yadav. "Role of nanoparticles for the treatment of gastric cancer." In *Nanobiotechnology and Artificial Intelligence in Gastrointestinal Diseases*, pp. 7-1. Bristol, UK: IOP Publishing, 2024.
 6. Azim, Zeba, Shubhra Khare, Narsingh Bahadur Singh, Km Niharika, Ajey Singh, **Ravi Kumar Yadav**, and Nimisha Amist. "GABA and Heat Stress." *GABA in Plants: Biosynthesis, Plant Development, and Food Security* (2025): 211-223.
 7. Sharma, B., Yadav, A., Jain, S., **Yadav, R.K.** (2026). Ethical and Social Implications of Nanotechnology in the Management of Metabolic Syndrome. In: Chaturvedi, V.K., Singh, A.K., Singh, J., Yadav, D.P. (eds) *Nanotheranostics in Metabolic Syndrome*. Springer, Singapore. https://doi.org/10.1007/978-981-95-3746-4_14.

Training/ workshops/Conferences:

25+ Training Programmes, Workshops & Conferences Attended.