

## *Curriculum Vitae*

### **Surendra Pratap Singh, Ph.D.**

Assistant Professor of Botany,

D.A.V. College, Civil Lines, Kanpur – 208001, India

**E-mail:** spsinghbiome@gmail.com | surendrapratapsingh\_kn03@csjmu.ac.in

**Ph No.+91-9451907509**

**ORCID:** <http://orcid.org/0000-0003-2469-613X>

**Google Scholar:** <http://bit.ly/2l88xRJ>

**Web of Science:** <https://www.webofscience.com/wos/author/rid/AAE-1336-2019>



### **Current Position-**

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-Assistant Professor, Department of Botany, Dayanand Anglo-Vedic (PG) College, Chhatrapati Shahu Ji Maharaj University, Kanpur, India

-Coordinator, University Grants Commission-National Skills Qualifications Framework (UGC-NSQF), Dayanand Anglo-Vedic (PG) College, Kanpur

### **Employment history-**

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**2017- still:** Assistant Professor at the Department of Botany, Dayanand Anglo-Vedic (PG) College, Chhatrapati Shahu Ji Maharaj University, Kanpur, India

**2015- 17:** Scientific Assistant at Division of DNA Fingerprinting, Forensic Serology and Forensic Biology, State Forensic Science Laboratory (SFSL), Department of Home, Prison and Disaster management, Government of Jharkhand, India

**2010- 15:** CSIR-Junior & Senior Research Fellow at Plant molecular biology lab, Council of Scientific & Industrial Research-National Botanical Research Institute (CSIR-NBRI), Lucknow, India.

### **Academic Qualifications-**

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**Ph.D. – Plant Molecular Biology** (2017).

Institute/University: Council of Scientific & Industrial Research-National Botanical Research Institute (CSIR-NBRI) & Lucknow University, Lucknow, India

**M.Sc. - Botany** (2005), CSJM University, Kanpur, India

**B.Sc. - Biological Sciences** (2003), CSJM University, Kanpur, India

### **Patent held- (01)**

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Sawant, S.V. and **Singh, S.P.**, Council of Scientific and Industrial Research (CSIR), 2021. *Novel reversible expression system for transgene expression in plants*. U.S. Patent Application 15/567,040.

[ <https://patents.google.com/patent/US10934556B2/en> ]

**Publications- (Published=34)**<sup>1</sup>Joint-First Author, \*Corresponding Author

S. No.	Publication Details	ISSN / eISSN	IF (JCR 2021)
<b>2023</b>			
34.	Sharma, P., Bano, A., Yadav, S., Singh, S. P.* (2023) Biocatalytic Degradation of Emerging Micropollutants. <i>Topics in Catalysis</i> (In Press)	1572- 9028	2.781
33.	Gupta, A., Sharma, T., <u>Singh, S. P.</u> , Bhardwaj, A., Srivastava, D., & Kumar, R. (2023) prospects of microgreens as budding living functional food: breeding and biofortification through omics and other approaches for nutritional security. <i>Frontiers in Genetics</i> , 14, 29. [DOI: <a href="https://doi.org/10.3389/fgene.2023.1053810">https://doi.org/10.3389/fgene.2023.1053810</a> ]	1664- 8021	4.772
32.	Mishra, V., Gahlawat, P., Singh, S., Dubey, N. K., <u>Singh, S. P.</u> , Tripathi, D. K., & Singh, V. P. (2023). GABA: a key player of abiotic stress regulation. <i>Plant Signaling &amp; Behavior</i> , 18(1), 2163343. [DOI: <a href="https://doi.org/10.1080/15592324.2022.2163343">https://doi.org/10.1080/15592324.2022.2163343</a> ]	1559- 2324	2.734
31.	Sharma, P. <sup>1</sup> , <u>Singh, S. P.</u> <sup>1</sup> , Tripathi, R. D., & Tong, Y. W. (2023). Chromium toxicity and tolerance mechanisms in plants through cross-talk of secondary messengers: An overview of pathways and mechanisms. <i>Environmental Pollution</i> , 121049. [DOI: <a href="https://doi.org/10.1016/j.envpol.2023.121049">https://doi.org/10.1016/j.envpol.2023.121049</a> ]	0269- 7491	9.988
<b>2022</b>			
30.	Singh, V. S., Dubey, B. K., Rai, S., <u>Singh, S. P.</u> , & Tripathi, A. K. (2022). Engineering D-glucose utilization in Azospirillum brasilense Sp7 promotes rice root colonization. <i>Applied Microbiology and Biotechnology</i> , 106(23), 7891-7903. [DOI: <a href="https://doi.org/10.1007/s00253-022-12250-0">https://doi.org/10.1007/s00253-022-12250-0</a> ]	0175- 7598	5.560
29.	Yadav, R., Kumar, A., Bano, N., Singh, P., Pandey, A., Dhar, Y.V., Bag, S.K., Pande, V., Sharma, P., <u>Singh, S.P.</u> , Iqbal, H.M., & Sanyal, I. (2022). Co-expression of <i>Cocculus hirsutus</i> trypsin inhibitor with Cry protein reduces resistant development in targeted insects along with complete mortality. <i>Industrial Crops and Products</i> , 188, p.115674. [DOI: <a href="https://doi.org/10.1016/j.indcrop.2022.115674">https://doi.org/10.1016/j.indcrop.2022.115674</a> ]	0926- 6690	6.449
28.	Sharma, P. <sup>1</sup> , Bano, A. <sup>1</sup> , <u>Singh, S. P.</u> <sup>1</sup> , Atkinson, J. D., Lam, S. S., Iqbal, H. M., & Tong, Y. W. (2022). Nanomaterials as highly efficient photocatalysts used for bioenergy and biohydrogen production from waste toward a sustainable environment. <i>Fuel</i> , 329, 125408. [DOI: <a href="https://doi.org/10.1016/j.fuel.2022.125408">https://doi.org/10.1016/j.fuel.2022.125408</a> ]	0016- 2361	8.035
27.	Sharma, P. <sup>1</sup> , Bano, A. <sup>1</sup> , <u>Singh, S. P.</u> <sup>1</sup> , Atkinson, J. D., Lam, S. S., Iqbal, H. M., & Tong, Y. W. (2022). Biotransformation of food waste into biogas and hydrogen fuel—A review. <i>International Journal of Hydrogen Energy (In press)</i> [DOI: <a href="https://doi.org/10.1016/j.ijhydene.2022.08.081">https://doi.org/10.1016/j.ijhydene.2022.08.081</a> ]	0360- 3199	7.139
26.	<u>Singh, S. P.*</u> , Sharma, P., Bano, A., Nadda, A. K., & Varjani, S. (2022). Microbial communities in plastisphere and free-living microbes for microplastic degradation: A comprehensive review. <i>Green Analytical Chemistry</i> , 3, 100030.[DOI: <a href="https://doi.org/10.1016/j.greeac.2022.100030">https://doi.org/10.1016/j.greeac.2022.100030</a> ]	2772- 5774	-
25.	Sharma, P., <u>Singh, S. P.</u> , * Iqbal, H. M., & Tong, Y. W. (2022). Omics approaches in bioremediation of environmental contaminants: An integrated approach for environmental safety and sustainability. <i>Environmental Research</i> , 211, 113102. [DOI: <a href="https://doi.org/10.1016/j.envres.2022.113102">https://doi.org/10.1016/j.envres.2022.113102</a> ]	0013- 9351	8.431

24. Sharma, P.<sup>1</sup>, Bano, A.<sup>1</sup>, Singh, S. P.<sup>1</sup>, Sharma, S., Xia, C. L., Nadda, A. K., Lam, S., & Tong, Y. W. (2022). Engineered microbes as effective tools for the remediation of polyaromatic aromatic hydrocarbons and heavy metals. *Chemosphere*, 306,135538. [DOI: <https://doi.org/10.1016/j.chemosphere.2022.135538> ] 0045- 8.943  
6535
23. Sharma, P., Bano, A., Nadda, A. K., Sharma, S., Varjani, S., & Singh, S. P.\* (2022). Crosstalk and gene expression in microorganisms under metals stress. *Archives of Microbiology*, 204(7), 1-20. [DOI: <https://doi.org/10.1007/s00203-022-02978-8>] 0302- 2.667  
8933
22. Sharma, P.<sup>1</sup>, Bano, A.<sup>1</sup>, Singh, S. P.<sup>1,\*</sup> Srivastava, S. K., Iqbal, H., & Varjani, S.\* (2022). Different stages of microbial community during the anaerobic digestion of food waste. *Journal of Food Science and Technology*, 1-13. [DOI: <https://doi.org/10.1007/s13197-022-05477-2>] 0975- 3.117  
8402
21. Sharma, P.<sup>1</sup>, Bano, A.<sup>1</sup>, Singh, S. P.<sup>1</sup>, Dubey, N. K., Chandra, R., & Iqbal, H. M. (2022). Microbial fingerprinting techniques and their role in the remediation of environmental pollution. *Cleaner Chemical Engineering*, 2, 100026. [DOI: <https://doi.org/10.1016/j.clce.2022.100020> ] 2772- -  
7823
20. Sharma, P.<sup>1</sup>, Bano, A.<sup>1</sup>, Singh, S. P.<sup>1,\*</sup> Dubey, N. K., Chandra, R., & Iqbal, H. M. (2022). Recent advancements in microbial-assisted remediation strategies for toxic contaminants. *Cleaner Chemical Engineering*, 2, 100020. [DOI: <https://doi.org/10.1016/j.clce.2022.100020>] 2772- -  
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19. Sharma, P.<sup>1</sup>, Parakh, S. K., Singh, S. P.<sup>1</sup>, Parra-Saldívar, R., Kim, S. H., Varjani, S., & Tong, Y. W. (2022). A critical review on microbes-based treatment strategies for mitigation of toxic pollutants. *Science of The Total Environment*, 834, 155444. [DOI: <https://doi.org/10.1016/j.scitotenv.2022.155444> ] 0048- 10.753  
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18. Sharma P, Singh SP. \* (2022). Identification and profiling of microbial community from industrial sludge. *Archives of Microbiology*. 204(4):234. 0302- 2.667  
8933
17. Sharma P<sup>1</sup>, Singh SP<sup>1</sup>, Iqbal HMN, Parra-Saldivar R, Varjani S, Tong YW. (2022) Genetic modifications associated with sustainability aspects for sustainable developments. *Bioengineered*. 13(4):9508-9520. [DOI: <https://doi.org/10.1080/21655979.2022.2061146>] 2165- 6.832  
5979
16. Singh, P. K., Chakrabarty, D., Dwivedi, S., Kumar, A., Singh, S. P., Sinam, G., Niranjan A., Singh P. C., Chatterjee S., Majumdar D., Tiwari M., & Tripathi, R. D. (2022). Nitric oxide-mediated alleviation of arsenic stress involving metalloid detoxification and physiological responses in rice (*Oryza sativa* L.). *Environmental Pollution*, 297, 118694. [DOI: <https://doi.org/10.1016/j.envpol.2021.118694> ] 0269- 9.988  
7491
15. Sharma, P<sup>1..</sup>, Singh, S. P<sup>1..</sup>, Parakh, S. K., & Tong, Y. W. (2022). Health hazards of hexavalent chromium (Cr (VI)) and its microbial reduction. *Bioengineered*, 13(3), 4923-4938. [DOI: <https://doi.org/10.1080/21655979.2022.2037273>] 2165- 6.832  
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14. Srivastava, R., Bajpai, R., Khan, Z., Singh, S. P., Mehrotra, R., & Dubey, N. K. (2022). Insight into strigolactone hormone functions in plant parasitic weeds: a regulatory perspective. *Indian Journal of Experimental Biology (IWEB)*, 60(09), 659-666. [DOI: <https://doi.org/10.56042/ijeb.v60i09.65154> ] 0019- 0.944  
5189
13. González-González, R. B., Sharma, P., Singh, S. P., Américo-Pinheiro, J. H. P., Parra-Saldívar, R., Bilal, M., & Iqbal, H. M. (2022). Persistence, environmental hazards, and mitigation of pharmaceutically active residual contaminants from water matrices. *Science of The Total Environment*, 821, 153329. [DOI: <https://doi.org/10.1016/j.scitotenv.2022.153329>] 0048- 10.753  
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**2021**

12. Sharma, P., Nanda, K., Yadav, M., Shukla, A., Srivastava, S. K., Kumar, S., & Singh, S. P.\* (2021). Remediation of noxious wastewater using nanohybrid adsorbent for preventing water pollution. *Chemosphere*, 292, 133380. 8.943  
 (DOI: <https://doi.org/10.1016/j.chemosphere.2021.133380>) 0045-6535
11. Sharma, P., Pandey, A. K., Kim, S. H., Singh, S. P., Chaturvedi, P., & Varjani, S. (2021). Critical review on microbial community during in-situ bioremediation of heavy metals from industrial wastewater. *Environmental Technology & Innovation*, 24, 101826. 2352-1864 7.758  
 (DOI: <https://doi.org/10.1016/j.eti.2021.101826>)

**2020**

10. Iqbal, Z., Shariq Iqbal, M., Singh, S. P., & Buaboocha, T. (2020). Ca<sup>2+</sup>/calmodulin complex triggers CAMTA transcriptional machinery under stress in plants: signaling cascade and molecular regulation. *Frontiers in Plant Science*, 11, 1829. 1664-462X 6.627  
 (DOI: <https://doi.org/10.3389/fpls.2020.598327>)

**2019**

9. Singh, V. S., Tripathi, P., Pandey, P., Singh, D. N., Dubey, B. K., Singh, C., Singh, S. P., Pandey R., & Tripathi, A. K. (2019). Dicarboxylate transporters of *Azospirillum brasiliense* Sp7 play an important role in the colonization of finger millet (*Eleusine coracana*) roots. *Molecular Plant-Microbe Interactions*, 32(7), 828-840. 0894-0282 3.422  
 (DOI: <https://doi.org/10.1094/MPMI-12-18-0344-R>)

**2018**

8. Dixit, R., Agrawal, L., Singh, S. P., Singh, P. C., Prasad, V., & Chauhan, P. S. (2018). *Paenibacillus lentimorbus* induces autophagy for protecting tomato from *Sclerotium rolfsii* infection. *Microbiological research*, 215, 164-174. 0944-5013 5.07  
 (DOI: <https://doi.org/10.1016/j.micres.2018.07.008>)
7. Kumar, V., Singh, B., Singh, S. K., Rai, K. M., Singh, S. P., Sable, A., Pant P., Saxena G., & Sawant, S. V. (2018). Role of GhHDA 5 in H3K9 deacetylation and fiber initiation in *Gossypium hirsutum*. *The Plant Journal*, 95(6), 1069-1083. 0960-7412 7.091  
 (DOI: <https://doi.org/10.1111/tpj.14011>)
6. Mishra, A., Singh, S. P., Mahfooz, S., Singh, S. P., Bhattacharya, A., Mishra, N., & Nautiyal, C. S. (2018). Endophyte-mediated modulation of defense-related genes and systemic resistance in *Withania somnifera* (L.) Dunal under *Alternaria alternata* stress. *Applied and environmental microbiology*, 84(8), e02845-17. (DOI: <https://doi.org/10.1128/AEM.02845-17>) 0099-2240 5.005

**2017**

5. Yadav, V. K., Yadav, V. K., Pant, P., Singh, S. P., Maurya, R., Sable, A., & Sawant, S. V. (2017). GhMYB1 regulates SCW stage-specific expression of the GhGDSL promoter in the fibres of *Gossypium hirsutum* L. *Plant biotechnology journal*, 15(9), 1163-1174. 1467-7644 13.263  
 (DOI: <https://doi.org/10.1111/pbi.12706>)
4. Singh, G., Tiwari, M., Singh, S. P., Singh, R., Singh, S., Shirke, P. A., Trivedi P. K., & Misra, P. (2017). Sterol glycosyltransferases required for adaptation of *Withania somnifera* at high temperature. *Physiologia plantarum*, 160(3), 297-311. 0031-9317 5.081  
 (DOI: <https://doi.org/10.1111/ppl.12563>)
3. Singh, P. K., Indoliya, Y., Chauhan, A. S., Singh, S. P., Singh, A. P., Dwivedi, S., Tripathi R. D., & Chakrabarty, D. (2017). Nitric oxide mediated transcriptional modulation enhances plant adaptive responses to arsenic stress. *Scientific reports*, 7(1), 1-13. 2045-2322 4.996  
 [DOI: <https://doi.org/10.1038/s41598-017-03923-2>]

**2016**

2. Singh, G., Tiwari, M., Singh, S. P., Singh, S., Trivedi, P. K., & Misra, P. (2016). Silencing of sterol glycosyltransferases modulates the withanolide biosynthesis and leads to compromised basal immunity of *Withania somnifera*. *Scientific reports*, 6(1), 1-13. 2045- 4.996  
[DOI: <https://doi.org/10.1038/srep25562>] 2322

**2015**

1. Singh, S. P., Singh, S. P., Pandey, T., Singh, R. R., & Sawant, S. V. (2015). A novel male sterility-fertility restoration system in plants for hybrid seed production. *Scientific reports*, 5(1), 1-14. 2045- 4.996  
[DOI: <https://doi.org/10.1038/srep11274>] 2322

**Books/Book chapters (19)**

S. No.	Publication details	ISBN/ eISBN
19.	Sharma, P., Yadav, M., Srivastava, S. K., & Singh, S. P. (2023). Bioremediation of androgenic and mutagenic pollutants from industrial wastewater. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 127-138). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-91902-9.00004-3">https://doi.org/10.1016/B978-0-323-91902-9.00004-3</a> ]	978-0-323-91902-9
18.	Sharma, P., Tiwari, A. K., Dubey, N. K., Chaturvedi, C., Raghuvanshi, A. P., & <u>Singh, S. P.*</u> (2022). Metabolomic Regulation During the Arsenic Stress. In <i>Arsenic in Plants: Uptake, Consequences and Remediation Techniques</i> , 185-197. Wiley [DOI: <a href="https://doi.org/10.1002/9781119791461.ch10">https://doi.org/10.1002/9781119791461.ch10</a> ]	978-1-119-79146-1
17.	Dubey, N. K., Gupta, K., Singh, S. P., Panigrahi, J., & Singh, S. P. (2022). Role of ET and ROS in Salt Homeostasis and Salinity Stress Tolerance and Transgenic Approaches to Making Salt-Tolerant Crops. In <i>Ethylene in Plant Biology</i> . Wiley. [DOI: <a href="https://doi.org/10.1002/9781119744719.ch11">https://doi.org/10.1002/9781119744719.ch11</a> ]	978-1-119-74471-9
16.	Sharma, P., <u>Singh, S. P.</u> , Pandey, A., & Tong, Y. W. (2022). Phytoremediation: An introduction. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 3-18). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00006-2">https://doi.org/10.1016/B978-0-323-99907-6.00006-2</a> ]	978-0-323-99907-6
15.	Singh, M., Nanda, K., Singh, V., & <u>Singh, S. P.*</u> (2022). Metal polluted soil detoxification using phytoremediation technology. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 243-260). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00011-6">https://doi.org/10.1016/B978-0-323-99907-6.00011-6</a> ]	978-0-323-99907-6
14.	Sharma, P., <u>Singh, S. P.</u> , & Tong, Y. W. (2022). Phytoremediation using CRISPR-Cas9 technology. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 39-53). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00009-8">https://doi.org/10.1016/B978-0-323-99907-6.00009-8</a> ]	978-0-323-99907-6
13.	Sharma, P., <u>Singh, S. P.</u> , & Tong, Y. W. (2022). Phytoremediation of polycyclic aromatic hydrocarbons from soil. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 261-274). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00003-7">https://doi.org/10.1016/B978-0-323-99907-6.00003-7</a> ]	978-0-323-99907-6
12.	Shukla, A., Yadav, M., Singh, M., & <u>Singh, S. P.*</u> (2022). Phytoremediation of heavy metal-containing wastewater. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 179-195). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00013-X">https://doi.org/10.1016/B978-0-323-99907-6.00013-X</a> ]	978-0-323-99907-6
11.	Sharma, P., <u>Singh, S. P.</u> , & Tong, Y. W. (2022). Phytoremediation of metals: Bioconcentration and translocation factors. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 19-37). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00002-5">https://doi.org/10.1016/B978-0-323-99907-6.00002-5</a> ]	978-0-323-99907-6
10.	Sharma, P., <u>Singh, S. P.</u> , & Tong, Y. W. (2022). Phytoremediation employing constructed wetlands. In <i>Current Developments in Biotechnology and Bioengineering</i> (pp. 93-108). Elsevier. [DOI: <a href="https://doi.org/10.1016/B978-0-323-99907-6.00015-3">https://doi.org/10.1016/B978-0-323-99907-6.00015-3</a> ]	978-0-323-99907-6

9. Singh, M., Sharma, P., Singh, V., Yadav, M., Tong, Y. W., & Singh, S. P.\* (2022). Application of phytoremediated biomass for the production of hydrogen. In *Current Developments in Biotechnology and Bioengineering* (pp. 339-354). Elsevier. [DOI: <https://doi.org/10.1016/B978-0-323-99907-6.00010-4>]
8. Yadav, M., Singh, M., Nanda, K., & Singh, S. P.\* (2022). Genetically engineered plants for phytoremediation of heavy metals. In *Current Developments in Biotechnology and Bioengineering* (pp. 223-239). Elsevier. [DOI: <https://doi.org/10.1016/B978-0-323-99907-6.00017-7>]
7. Sharma, P., Tripathi, S., Srivastava, A., Soni, R., & Singh, S. P.\* (2022). Microbes enhancing assimilation and utilization of minerals promoting plant health and production. In *Microbial Resource Technologies for Sustainable Development* (pp. 407-418). Elsevier. [DOI: <https://doi.org/10.1016/B978-0-323-90590-9.00008-0>]
6. Sharma, P., Shukla, A., Yadav, M., Tiwari, A. K., Soni, R., Srivastava, S. K., & Singh, S. P. (2022). Nanotechnology for plant growth promotion and stress management. In *Trends of Applied Microbiology for Sustainable Economy* (pp. 269-283). Academic Press. [DOI: <https://doi.org/10.1016/B978-0-323-91595-3.00017-3>]
5. Sharma, P., Soni, R., Srivastava, S. K., & Singh, S. P.\* (2022). Modern Landfilling Approaches for Waste Disposal and Management. In *Bioremediation of Environmental Pollutants* (pp. 239-252). Springer, Cham. [DOI: [https://doi.org/10.1007/978-3-030-86169-8\\_10](https://doi.org/10.1007/978-3-030-86169-8_10)]
4. Sharma, P., & Singh, S. P.\* (2021). Advances in Microbial Applications in Safeguarding of Plant Health: Challenges and Future Perspective. In *Microbiological Activity for Soil and Plant Health Management* (pp. 547-562). Springer, Singapore. [DOI: [https://doi.org/10.1007/978-981-16-2922-8\\_21](https://doi.org/10.1007/978-981-16-2922-8_21)]
3. Sharma, P., & Singh, S. P.\* (2021). Pollutants characterization and toxicity assessment of pulp and paper industry sludge for safe environmental disposal. In *Emerging Treatment Technologies for Waste Management* (pp. 207-223). Springer, Singapore. [DOI: [https://doi.org/10.1007/978-981-16-2015-7\\_10](https://doi.org/10.1007/978-981-16-2015-7_10)]
2. Sharma, P., & Singh, S. P.\* (2021). Role of the endogenous fungal metabolites in the plant growth improvement and stress tolerance. In *Fungi Bio-Prospects in Sustainable Agriculture, Environment and Nano-technology* (pp. 381-401). Academic Press. [DOI: <https://doi.org/10.1016/B978-0-12-821734-4.00002-2>]
1. Sharma, P., Singh, S. P.\* Pandey, S., Thanki, A., & Singh, N. K. (2020). Role of potential native weeds and grasses for phytoremediation of endocrine-disrupting pollutants discharged from pulp paper industry waste. In *Bioremediation of Pollutants* (pp. 17-37). Elsevier. [DOI: <https://doi.org/10.1016/B978-0-12-819025-8.00002-8>]

## Research Grant (05)

S. No.	Title of project/Grant File No.	Funding Agency	Role	Duration	Amount (INR)
1.	Genome-wide analysis of AuTophagy-related Genes (ATG) in <i>Gossypium hirsutum</i> (L.), and study of the role of autophagy in cotton fiber development. <b>(SRG/2019/001940)</b>	Science and Engineering Research Board (DST-SERB), New Delhi [Under Start-up Research Grant (SRG)]	Sole PI	02 Year (30 Dec. 2019 to 30 Dec. 2021)	30 Lakhs
2.	Exploring the mechanism behind Arabidopsis BECLIN1-mediated male-sterility in transgenic tobacco and cotton <b>(TAR/2019/000304)</b>	Science and Engineering Research Board (DST-SERB), New Delhi [Under Teachers Associateship for Research Excellence (TARE)]	Sole PI	03 Years	15 Lakhs + Fellowship

3.	Genome-wide analysis of Senescence Associated Genes (SAGs) in cotton and their role in Development & Stress responses [CSJMU/R&D/CVR/19/2022]	C.V. Raman Minor Research Project Scheme, Chhatrapati Shahu Ji Maharaj University, Kanpur	Sole PI	Ongoing 01 Years (07/02/2022 to still)	01 Lakh
4.	"Genome-wide identification and expression analysis of fiber-related gene-families in cotton and related bioinformatics and molecular biology techniques" [AV/VRI/2022/0026]	SERB- Accelerate Vigyan-Vritika Scheme	Sole PI	Ongoing	1.5 Lakh
5.	Genome-wide identification and characterization of Ferric reductase oxidases (FROs) gene family in <i>Gossypium</i> species and their role in cotton fiber development and stress responses	Directorate of Higher Education, Govt. of UP under "Research & Development" Scheme	PI	Awarded	5.0 Lakh

## Teaching/Mentor Experience

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I. Working as Assistant professor at D.A-V (PG) College Kanpur since 16/10/2017. The majors are.

- 1. Cytogenetics 2. Plant Molecular Biology 3. Plant Biotechnology

II. 02 MS students' dissertation was successfully guided (sponsored under SERB-SSR Policy)

III. 05 MS students' dissertation was successfully guided (sponsored under SERB-Accelarate Vigyan Vritika Scheme)

III. 04 Ph.D. student enrolled.

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| 1. Mr Ashutosh Shukla (DST-INSPIRE Fellow) | 2. Ms. Mamta Yadav                         |
| 3. Ms. Varsha Singh                        | 4. Ms. Kajal Varma (DBT-JRF. CSIR-UGC-JRF) |

## Training /Workshop/symposium -

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1. 13th INDO-US Workshop on Flow Cytometry at IIT Guwahati, India (October 8-10, 2012).
2. Workshop on Electron Microscopy in Life Science University of Delhi, New Delhi (July 7-8; 2014).
3. Sensitization Programme on IPR for MSME, CSIR-NBRI, India. (March 22, 2014).
4. Workshop on JEOL TEM, SEM & NMR products at INST, Mohali, India (December 16; 2014).
5. 2<sup>nd</sup> Biennial Indian Drosophila Research Conference, InDRC at IIT Kanpur. (December 20-23; 2016).
6. "Faculty Induction Program" Under PMMMNMTT (MHRD Sponsored) to be scheduled from at Central University of Punjab, India. (04.06.2019 to 03.07.2019).
7. "Genome editing mediated by CRISPR/Cas9: tools, experimental design, and applications". DBT-NABI, India (1-4 Nov. 2019).
8. Two weeks online training course on "Python Programming " jointly organized by Electronics and ICT Academies, IITs during July 26 – August 06, 2021, under the "Scheme of financial assistance for setting up of Electronics and ICT Academies" of the Ministry of Electronics and Information Technology (MeitY), Government of India.

## Awards and Recognitions-

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1. Teachers Associateship for Research Excellence (TARE) Fellowship by DST-SERB, India (2019).
2. Early Career Research Award (SERB-SRG) DST-SERB, India (2019).
3. Council of Scientific and Industrial Research- Senior Research Fellowship (2012 to 2015).
4. Council of Scientific and Industrial Research- Junior Research Fellowship (2010 to 2012).  
*(Qualified prestigious CSIR-JRF (NET) in 2008 and 2012 with all India rank 29 and 28 respectively).*
5. Graduate Aptitude Test in Engineering (GATE) in Life Science with score 96.97 percentile (2008).
6. Agricultural Scientists Recruitment Board (ICAR) National Eligibility Test for Lectureship/Assistant Professor (NET) in

- Basic Plant Science (in 2010).
7. Best Transmission Electron Micrograph (TEM) award Electron Microscopy Society of India, India (2014).
  8. Best Research Paper Award of 2016 in Genetics and Molecular Biology by the CSIR-National Botanical Research Institute on Annual Day, 25 Oct 2016.
  9. C.V. Raman Minor Research Project Award by Chhatrapati Shahu Ji Maharaj University, Kanpur, India (2022).

### **Presentation (Selected 10 only) -**

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#### **Oral Presentation:**

1. International Conference on Electron Microscopy and XXXVII Annual Meeting of the Electron Microscope Society of India (EMSI). IIT (BHU), Varanasi, India (June 2-4, 2016)
2. 58<sup>th</sup> Annual Conference of Association of Microbiologist of India (AMI-2017), INDIA (Nov 16-19, 2017).
3. IC-AAFS-2021, Sharda University, India (16-20 Jan 2021).

#### **Poster Presentation:**

4. Plant Biology 2018 by ASPB and CSPB, Montreal, Canada from July 14-18, 2018.
5. International Congress of Cell Biology 2018 (ICCB-2018) CSIR-CCMB, INDIA (Jan 27-31, 2018)
6. International Symposium on Plant signalling and behaviour, Delhi University, India (March 7-10, 2014)
7. International Conference on Electron Microscopy & XXXV Annual Meeting of Electron Microscopy Society of India (EMSI), Delhi University, India (July 9-11, 2014)
8. 37<sup>th</sup> Annual Meeting of Plant Tissue Culture Association (PTCA) India & National Symposium on Plant Biotechnology for Crop Improvement (Feb. 25-27, 2016).
9. 3<sup>rd</sup> International Plant Physiology Congress (IPPC) at JNU, New Delhi, India (December 11-14, 2015)
10. 18<sup>th</sup> ISME conference, Lausanne, Switzerland (Aug 14-19, 2022)

### **Editor/Reviewer -**

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1. Guest Associate Editor in **Frontiers in Microbiology (Impact Factor- 6.064)** special issue "*Synergistic Interaction of Plants and Microbes for Removal of Toxic Elements/Chemicals: Multidisciplinary approaches for a Sustainable Environment.*"  
(Link: : [https://www.frontiersin.org/research-topics/31020/synergistic-interaction-of-plants-and-microbes-for-removal-of-toxic-elementschemicals-multidisciplin\\_](https://www.frontiersin.org/research-topics/31020/synergistic-interaction-of-plants-and-microbes-for-removal-of-toxic-elementschemicals-multidisciplin_))

2. Reviewer in various SCI journals including Frontiers in Genetics, Environmental Pollution, Plant Growth Regulation, Planta, Plant Nano Biology, PlosOne, Acta Physiologia Plantarum etc.

### **Membership to Societies**

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1. Life member of The Indian Science Congress Association (ISCA), Membership Number- L18349
2. Life member of Electron Microscope Society of India (EMSI), Membership Number- LM-1311
3. Life member of Indian Society of Developmental Biologists (InSDB) Membership Number-InSDB10502

### **\*Abroad Visit-**

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1. **Canada:** [July 12-22, 2018] Participated in Plant Biology 2018 by ASPB and CSPB, Montreal, Canada.
2. **Switzerland:** [Aug 12-22, 2022] Participated in 18<sup>th</sup> ISME conference, Lausanne, Switzerland.
3. **Singapore:** [Dec. 24, 2022 to Jan 08, 2023] visited National University of Singapore (NUS), Singapore