

Curriculum Vitae

Deepali Singh, Ph.D.

Professor,

College of Biotechnology, SVPUAT, Meerut,

Email: deepali.svpuat@gmail.com; deepalisingh@svpuat.edu.in

Educational/Professional Qualifications

- Ph.D.: University of Delhi South Campus, New Delhi, India.
- Masters of Science: G. B. Pant University of Agriculture and Technology, Pantnagar, Uttrakhand, India.

Summary of Research/Teaching/Experience

- July 2025 onwards: Professor, College of Biotechnology, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut
- October 2010 till June 2025: Assistant Professor, School of Biotechnology, GautamBuddha University, Greater Noida, U.P., India. (On Leave)
- February 2015–December 2015: Post-Doctoral Researcher, Department of Biological Science, Michigan Technological University, Michigan, USA.
- July 2005 –September 2010: Post Doctoral Researcher, The Ohio State University, Columbus, Ohio, USA.

Research Areas

- Host-pathogen interactions
- Plant Molecular Biology
- Genomics and Genome Editing
- Recombinant DNA Technology

Extramural Research Projects

DST-SERB: Tissue-specific suppression of susceptibility genes for wilt disease resistance in eggplant. **(PI)**

DBT-BIRAC: Development of Isothermal-PCR based rapid and portable coronavirus SARS-CoV-2 (COVID-19) detection kit. **(Co-PI)**

DBT-BioCaRe: Host induced gene silencing (HIGS) of key pathogenicity factors in *Verticillium dahliae* to enhance resistance in eggplant against wilt disease. **(PI)**.

DBT-RGYI: Investigations on the role of Hepatitis B virus X protein (HBx) in cancer stem cell-mediated initiation and progression of hepatocellular carcinoma. **(Co-PI)**

Publications

1. Mukesh Kumar, Veena Chaudhary, Vidisha Chaudhary, Ravi Kumar, Ujjwal Sirohi, Rajat Singh, **Deepali Singh**, Sachin Teotia. CRISPR/Cas system and AI tools for effective gene editing in vegetable crops: a systematic review. *Discov Appl Sci* **(2026)**8, 459.

2. Rajesh Kumar, Shalini Sengar, Taniya Bargoti, Arun Solanki, **Deepali Singh**, Vikrant Nain. From Wild to Cultivated: Genome Editing Accelerates the De novo Domestication Revolution. *Journal of Advances in Biology & Biotechnology*(**2026**) 29 (1), 308-322
3. Shilpi Sharma, Naveen Kumar Saroha, Abhilasha Sehrawat, Guiliang Tang, **Deepali Singh**, Sachin Teotia. Emerging trends in plant genome editing. *Frontiers in Genome Editing* (**2025**), 7, 1588089.
4. Ravi Kumar, Mukesh Kumar, Veena Chaudhary, Sachin Teotia, **Deepali Singh**. Exploring Recent Advances, Limitations, and Future Prospects of OMICS-Based Technologies in Plant-Pathogen Interaction Studies: A Systematic Review. *Discover Plants*,(**2025**), 2 (1), 284.
5. Taniya Bargoti, Divya Pratap Nain, Vikrant Nain, **Deepali Singh**. Selection Pressure on Translational Efficiency Driven Codon Usage Bias in Drought Responsive Genes of *Oryza sativa*. *Plant Biochem. Biotechnol*(**2025**),<https://doi.org/10.1007/s13562-025-00990-9>
6. Zhen-Pu Liang, Rui Wang, Han-Wen Cao, Xin-Lu Zhou, Jin-Ping Dai, Ping Su, **Deepali Singh**, Xiao-Xia Zhang. *Salinicoccus bachuensis* sp. nov., a novel halophilic bacterium, isolated from rhizosphere soil surrounding *Tamarix chinensis* Lour. plants in Bachu County, Xinjiang, China. *Archives of Microbiology*, (**2025**), 207, 5, 1-12.
7. Rajesh Kumar, Taniya Bargoti, Shalini Sengar, **Deepali Singh**, Vikrant Nain. A Decade of Genome Editing: Comparative Review of Zfn, Talen, and Crispr/Cas9. *International Journal of Innovative Science and Research Technology*,(**2025**),10 (4), 3708-3717.
8. Taniya Bargoti, Rajesh Kumar, Vikrant Nain,**Deepali Singh**. CRISPR Cas9 mediated anthocyanin biofortification in tomato (*Solanum lycopersicum*): a precision genome editing approach.*Journal of Advances in Biology & Biotechnology*, (**2025**), 28: 3, 330-339,
9. Zhen-Pu Liang, Yi Wang, Xiao-Yue Chen, Rui Wang, Yan Xu, Jin-Ping Dai, **Deepali Singh**, Xiao-Xia Zhang. *Halomonas kashgarensis* sp. nov., a Novel Species Isolated from the Rhizosphere Soil of *Phragmites australis* (Cav.) Trin. ex Steud in Kashgar County, Xinjiang, China. *Diversity*, (**2025**), 17(2), 98.
10. Taniya Bargoti, Divya Pratap Nain, Rajesh Kumar, Amit Kumar Awasthi, **Deepali Singh**, Vikrant Nain. Scaled Codon Usage Similarity Index: A Comprehensive Resource for Crop Plants. *Journal of Genetic Engineering and Biotechnology*, (**2024**), 22, 100441
11. Mukesh Kumar, Veena Chaudhary, Manoj Kumar Yadav, Chetan Chauhan, Ravi Kumar, **Deepali Singh**, Sachin Teotia. RNAi: A potent biotechnological tool for improvement of ornamental crops. *Plant Molecular Biology Reporter*, (**2024**), 23-40
12. Shubhangini Kumari, Vandna Singh, **Deepali Singh**. Nanoparticle synthesis advancements and their application in wastewater treatment: A comprehensive review. *Current Chemistry Letters*, (**2024**)13, 31-40
13. Yanqing Yang, Jinping Dai, Guozhi Zhang, **Deepali Singh**, XiaoxiaZhang, Zhenpu Liang Mamestra brassicae multiple nucleopolyhedroviruses prevents pupation of *Helicoverpa armigera* by regulating juvenile hormone titer *Insects* (**2024**)15(3), 202.
14. Archana Prajapati, Vikrant Nain, **Deepali Singh**. *In silico* screening of gRNAs for introducing CRISPR-Cas9 based antifungal resistance in eggplant. *Bioinformatics* (**2023**), 19(8): 844-848
15. Aditi Sharma, **Deepali Singh**. COVID-19 and gastrointestinal infection: New approaches for disease management. *Journal of Food and Agriculture Research* (**2023**), 2 95-113.

16. Liang Zhenpu, Yanqing Yang, Xiaoyan Sun, Junyang Du, Qiuyun Wang, Guozhi Zhang, Jiran Zhang, Xinming Yin, **Deepali Singh**, Ping Su, and Xiaoxia Zhang. Integrated Analysis of MicroRNA and mRNA Expression Profiles in the Fat Bodies of MbMNPV-Infected *Helicoverpa armigera*. *Viruses* (2023) 15, 1: 19.
17. Ujjwal Sirohi, Mukesh Kumar, Vinukonda Rakesh Sharma, Sachin Teotia, **Deepali Singh**, Veena Chaudhary, Priya, Manoj Kumar Yadav. CRISPR/Cas9 System: A potential tool for genetic improvement in floricultural crops. *Molecular Biotechnology* (2022)64,1303–1318
18. Aishwarya Chaudhary, **Deepali Singh**. *In-silico* analysis of the regulatory region of effector protein genes in *Verticillium dahlia*. *Gene Reports* (2022) 27, 101533.
19. Aishwarya Chaudhary, Sachin Teotia, **Deepali Singh**. Tools for engineering resistance against pathogens in plants. *J. Plant Biochem. Biotechnol.* (2022). 101533, 2452- 0144.
20. Naveen Kumar, Aishwarya Chaudhary, **Deepali Singh**, Sachin Teotia. Transcriptional regulation of seed oil accumulation: role of transcription factors and chromatin remodelers in *Arabidopsis thaliana*. *J. Plant Biochem. Biotechnol.*(2020), 29(4)754– 768
21. Liang Zhenpu, Wang L, Hui Wu, Deepali Singh, XiaoxiaZhang. Integrative analysis of microRNA and mRNA expression profiles in MARC-145 cells infected with PRRSV. *Virus Genes* (2020)610–620
22. Liang Zhenpu, Pengjuan Li, Caiping Wang, **Deepali Singh**, Xiaoxia Zhang. Visualizing the Transport of Porcine Reproductive and Respiratory Syndrome Virus in Live Cells by Quantum Dots-Based Single Virus Tracking. *Virolog Sin.* (2020) 35(4):407-416.
23. Jitendra Kumar Verma, Vijay Wardhan, **Deepali Singh**, Subhra Chakraborty, Niranjana Chakraborty. Genome-Wide Identification of Alba Gene Family in Plants and Stress-Responsive Expression of Rice Alba Genes. *Genes* (2018) 28;9(4). pii: E183.
24. Gatikrushna Singh, Sarah M Fritz, Arnaz Ranji, **Deepali Singh**, Kathleen Boris-Lawrie. Isolation of Cognate RNA-protein Complexes from Cells Using Oligonucleotide-directed Elution. *J. Vis. Exp.* (2017).(119), e54391,
25. Sachin Teotia, **Deepali Singh**, Xiaoqing Tang, Guiliang Tang. Essential RNA-Based Technologies and Their Applications in Plant Functional Genomics. *Trends Biotechnol.* (2016), pii: S0167-7799(15)00248-6.
26. **Deepali Singh**, Ioana Boeras, Gatikrushna Singh and Kathleen Boris-Lawrie. Isolation of cell-associated and virion-associated HIV-1 RNPs. *HIV Protocols* (2016), *Methods Mol Biol.* ;1354:133-46.
27. Matthew Stake*, **Deepali Singh***, J Marcela Hernandez, Rebecca Kaddis, Leslie J Parent, Kathleen Boris-Lawrie. HIV-1 and two avian retroviral 5' untranslated regions bind orthologous human and chicken RNA binding proteins. *Virology* (2015), 486:307-20. * [equal contribution](#)
28. **Deepali Singh**, Robert Haicour, Darasinh Sihachakr, Manchikatla Venkat Rajam. Expression of rice chitinase gene in transgenic eggplant confers resistance to fungal wilts. *Indian Journal of Biotechnology* (2015),14(2) 233-240.
29. **Deepali Singh**, Annick Ambroise, Robert Haicour, Darasinh Sihachakr, Manchikatla Venkat Rajam. Increased resistance to fungal wilts in transgenic eggplant expressing alfalfa glucanase gene. *Physiology and Molecular Biology of Plants* (2014)20(2):143-50
30. Wen-Yi Chen, **Deepali Singh**, Lien B Lai, Michael A Stiffler, Hue D Lai, Mark P Foster, Venkat Gopalan. Fidelity of tRNA 5'-maturation: a possible basis for the functional

dependence of archaeal and eukaryal RNase P on multiple protein cofactors. *Nucleic Acids Res.* (2012); 40(10):4666-80

31. Cheryl Bolinger, Amit Sharma, **Deepali Singh** and Kathleen Boris-Lawrie. RNA Helicase A modulates HIV-1 translation and infectivity. *Nucleic Acids Res.* (2010); 38(5):1686-96.
32. MV Rajam, N Chandola, P. Saiprasad Goud, **Deepali Singh**, Vivek Kashyap, ML Choudhary, Darasigh Sihachakr. Thaumatin sweet protein gene confers tolerance to fungal pathogens as well as abiotic stresses in transgenic tobacco plants. *Biol. Plant* (2007) 51, 135-141.

Book Chapters

1. Naveen Kumar, **Deepali Singh**, Sachin Teotia. Long non-coding RNAs: Regulatory mechanisms and applications in crop breeding facing global climate change. **Functional RNAs in Plants Developing Climate-Resilient and Stress-Resistant Crops** [Jen-Tsung Chen (Eds)], **Elsevier (2025)**, ISBN: 9780443333415, eBook ISBN: 9780443333422
2. Gatikrushna Singh, **Deepali Singh**, Nicole Placek, Stacey Hull, Radhakrishna Sura, Kathleen Boris-Lawrie: The Appropriate Ratio of Retroviral Structural Proteins Is Activated by the Spleen Necrosis Virus Post-Transcriptional Control Element. **Biomotors and their Nanobiotechnology Applications**, **CRC Press (2023)**, eBook ISBN 9780429203367, pp DOI: 10.1201/9780429203367-25
3. **Deepali Singh**, Vartika Sinha, Abhinav Kumar, Sachin Teotia: Small RNAs and cold stress tolerance in plants. **Plant Small RNA Biogenesis, Regulation and Application** [Praveen Guleria and Vineet Kumar (Eds)], **Elsevier Inc (2020)**, ISBN 978-0-12-817112-7, pp 209-230.
4. Sachin Teotia, **Deepali Singh**, Guiliang Tang: Technologies To Address Plant MicroRNA; in **Plant miRNAs - Shaping Development and Environmental Functions**, [Celia Miguel, Tamas Dalmay and Ines Chaves (Eds)], **Springer Nature Switzerland AG. (2020)** ISBN: 978-3-030-35772-6.
5. Sachin Teotia, **Deepali Singh**, Guiliang Tang: DNA Methylation in Plants by microRNAs in **Plant Epigenetics**, [Nikolaus Rajewsky, Stefan Jurga, Jan Barciszewski (Eds)] **Springer International Publishing (2017)** ISBN: 978-3-319-55520-1
6. **Deepali Singh** and Sachin Teotia: Fungal Disease Management in Plants; in **Approaches to Plant stress and their Management**, [Gaur R.K. and Sharma P. (Eds.)], **Springer, India Pvt. Ltd. (2013)** ISBN: 978-81-322-1620-9
7. Sachin Teotia and **Deepali Singh**: Oxidative Stress in Plants and its Management; in **Approaches to Plant stress and their Management**, [Gaur R.K. and Sharma P. (Eds.)], **Springer, India Pvt. Ltd. (2013)** ISBN: 978-81-322-1620-9

Edited Books

1. **RNA-Based Technologies for Functional Genomics in Plants**. Editors Guiliang Tang, Sachin Teotia, Xiaoqing Tang, **Deepali Singh**. Springer Nature Switzerland AG 2021, ISBN 978-3-030-64993-7
2. **Biofabrication and Synthetic Biology in Medicinal Plants: Advances in Biotechnology and Breeding**. Editors Eti Sharma, Gunjan Tiwari, Uma Singh, **Deepali Singh**. Elsevier International, ISBN 978-0-443-34129-8

Academic/Administrative responsibilities:

- Joint University Co-Ordinator, Examinations (2019- 2024)
- Member Secretary, Institutional Biosafety Committee, School of Biotechnology, Gautam Buddha University, Greater Noida
- Member of Board of Studies, School of Biotechnology, Gautam Buddha University
- Member of the University Admission Team (2017-19)
- Member Anti Ragging committee (2017-19; 2012-13)
- Member- University Examination Committee, Gautam Buddha University, Greater Noida