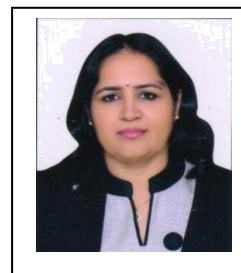


CURRICULUM VITAE

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Research Interests

In vitro plant regeneration and genetic transformation of grain legumes (*Vigna* species), rice and fodder crop (*Trifolium alexandrinum*) for crop improvement.

Research Projects: 07

1. Project Title: “**Generating insect resistant cowpea plants**” funded by UGC (University Grants Commission), New Delhi, India (2013-2017). Status: Completed. (Principal Investigator).
2. Project Title: “**Expression of decaprenyldiphosphate synthase gene in rice (*Oryza sativa* L.) for biosynthesis of coenzyme Q10**” funded by DST-SERB, Govt. of India. (2014-2017). Status: Completed. (Principal Investigator).
3. Project Title: “**Biofortification of wheat (*Triticum aestivum*) with a potent antioxidant, CoQ10 for nutritional enhancement and abiotic stress tolerance**” funded by DST-EMR, Govt. of India. (2014-2017). Status: Completed. (Co-PI).
4. Project Title: “**Development of yellow mosaic virus resistance in blackgram (*Vigna mungo* L. Hepper) and cowpea (*Vigna unguiculata*)**” funded by DBT, Govt. Of India (2011-2013). Status: Completed. (Co-PI).
5. Project Title: “**Cloning of bovine rota virus genes for their expression in fodder plants to develop edible vaccine against bovine rota virus infections**” funded by R K Fund, M D University, Rohtak (2018-2019) Status: Completed. (Principal Investigator).
6. Project Title: “**Nanomaterials-mediated topical delivery of RNAi cargo for sustained protection of food legumes against whitefly *Bemisia tabaci* and the virus they transmit**” funded by Haryana State Council for Science, Innovation and Technology (HSCSIT), Haryana. (2021-2021). Status: On-Going (Principal Investigator).
7. Project Title: “**CRISPR-Cas9 targeted mutagenesis of FAE1 homoeologs in an allopolyploid oil seed Indian mustard (*Brassica juncea* L.) to improve oil qualities**” funded by DBT-BUILDER, Govt. Of India. (2021-2026). Status: On-Going. (Principal Investigator).

Awards and Scholarships

- Qualified **National Eligibility Test (NET)** for Lectureship conducted by CSIR, New Delhi, India (2005).
- Awarded **University Research Scholarship (URS)** by M. D. University, Rohtak, Haryana, India (2006).
- Awarded **Senior Research Fellowship** by CSIR (Council for Scientific & Industrial Research), New Delhi, India (2007).

Teaching Activities

Teaching M. Sc. and Ph. D. Course work Students of Agriculture Biotechnology and Biotechnology.

No. of students completed Ph. D.: 02

No. of students registered for Ph. D.: 03

No. of students supervised for P.G (Dissertation): 70+

Membership of Academic Societies

- Life Member of Association of Microbiologists of India (AMI).
- Life Member of Society for Plant Biochemistry and Biotechnology, India.
- Life Member of Indian Science Congress Association.

Selected Publications:

1. Bhoria, S., Yadav, J., Yadav, H., **Chaudhary, D.**, Jaiwal, R., & Jaiwal, P. K. Current advances and future prospects in production of recombinant insulin and other proteins to treat diabetes mellitus. *Biotechnology Letters* (2022). <https://doi.org/10.1007/s10529-022-03247-w> **Impact Factor-2.461**
2. Kumar, A., Sainger, M., Jaiwal, R., **Chaudhary, D.**, & Jaiwal, P. K. (2021). Tissue Culture-and Selection-Independent *Agrobacterium tumefaciens*-Mediated Transformation of a Recalcitrant Grain Legume, Cowpea (*Vigna unguiculata* L. Walp). *Molecular biotechnology*, 63(8), 710-718. **Impact Factor-2.695**
3. Kumar, A., Jaiwal, R., Sreevathsa, R., **Chaudhary, D.**, Jaiwal, P.K. Transgenic cowpea plants expressing *Bacillus thuringiensis* Cry2Aa insecticidal protein imparts resistance to *Maruca vitrata* legume pod borer. *Plant Cell Rep.* (2021) Jan 20. doi: 10.1007/s00299-020-02657. **Impact Factor-4.57**
4. Suhag, A., Yadav, H., **Chaudhary, D.**, Subramanian, S., Jaiwal, R., Jaiwal, P.K. Biotechnological interventions for the sustainable management of a global pest, whitefly (*Bemisia tabaci*). *Insect Science*. <https://doi.org/10.1111/1744-7917.12853> (2020). **Impact Factor-3.262**
5. Chauhan, C., Joshi, G., **Chaudhary, D.**, Das, S Sequence and functional analysis of cis-elements associated with MIR159 loci from *Brassica juncea* reveal functional diversification and complex transcriptional regulation. *Plant Growth Regulation* (2020), 90 (2), 279-306. **Impact Factor-3.412**
6. Birla, D.S., Malik, K., Sainger, M., **Chaudhary, D.**, Jaiwal, R., and Jaiwal, P.K. Progress and challenges in improving the nutritional quality of rice (*Oryza sativa* L.). *Critical Reviews in Food Science and Nutrition*, 57 (2017) 2455-2481. **Impact Factor -11.176**
7. Sainger, M., Jaiwal, A., Sainger, P.A., **Chaudhary, D.**, Jaiwal, R., Jaiwal, P.K., Advances in genetic improvement of *Camelina sativa* for biofuel and industrial bio-products. *Renewable and Sustainable Energy Reviews*, 68 (2017)623-637. **Impact Factor- 14.982**
8. **Chaudhary, D.**, Madanpotra, S., Jaiwal, Saini, R., Kumar, P.A. and Jaiwal, P.K., *Agrobacterium tumefaciens*-mediated high frequency genetic transformation of an Indian Cowpea (*Vigna unguiculata* L. Walp) cultivar and transmission of transgenes into progeny. *Plant Science*, 172 (2007) 692-700. **Impact Factor-4.729**
9. Chhabra, G., **Chaudhary, D.**, Lal, M. and Jaiwal, P. K. TDZ induces the shoot organogenesis and somatic embryogenesis on cotyledonary node explants of lentil (*Lens culinaris* Medik.). *Physiology and Molecular Biology of Plants*, 14 (2008). **Impact Factor- 2.41**
10. Yadav, M., **Chaudhary, D.**, Singh, R.P. and Jaiwal, P.K. *Agrobacterium* mediated genetic transformation of (*Sesamum indicum*). *Plant Cell, Tissue and Organ Culture*, 103 (2010) 377-386. **Impact Factor- 2.711**
11. Chhikara, S., **Chaudhary, D.**, Dhankher, O.P. and Jaiwal, P.K. Combined expression of barley class II chitinase and type I ribosome inactivating protein in transgenic *Brassica juncea* provide protection against fungus *Alternaria brassicae*. *Plant Cell, Tissue and Organ Culture*, 108 (2012) 83-89. **Impact Factor- 2.41**
12. Parmar, S.S, Sainger, M., **Chaudhary, D.**, Jaiwal, P.K. Plant regeneration from mature embryo of commercial Indian bread wheat (*Triticum aestivum* L.) Cultivar. *Physiology and Molecular Biology of Plants* 18 (2012) 177-183. **Impact Factor- 2.41**
13. Aggarwal, V., Prashant, A., Malik, J., Chaudhary, D., Jaiwal, P. K., & Pundir, C. S.). Influence of chemically synthesized copper nanoparticles and cupric ions on oxalate oxidation system in germinating Sorghum grain. *Indian Journal of Experimental Biology*, 58(01) (2020). **Impact Factor- 0.818**
14. Verma, S., Yadav, J., Chaudhary, D., Jaiwal, P. K., & Jaiwal, R. (2020). Insecticidal Activities of Some Botanicals on the Three Species of

- Callosobruchus. Indian Journal of Agricultural Research, 54(6). **IF = 0.369**
15. Kumar, A, Sainger, M, Jaiwal, R, Jaiwal, P.K. and **Chaudhary, D.** An Efficient and Reproducible *in vitro* Multiple Shoots and Plant Regeneration System for a Recalcitrant Large-seeded Legume, Cowpea [*Vigna unguiculata* (L.) Walp]. Annals of Agri Bio Research. MS No. 2021/27. (2020). **IF = 0.283**
 16. Sindhu, M., Kumar, A., Yadav, H., **Chaudhary, D.**, Jaiwal, R., & Jaiwal, P. K. Current advances and future directions in genetic enhancement of a climate resilient food legume crop, cowpea (*Vigna unguiculata* L. Walp). *Plant Cell, Tissue and Organ Culture (PCTOC)*. 139 (3), 429-453, (2019). **IF = 2.711**
 17. Yadav, J., Verma, S., **Chaudhary, D.**, Jaiwal, P. K., & Jaiwal, R., Tuberculosis: current status, diagnosis, treatment and development of novel vaccines. *Current pharmaceutical biotechnology*, (2019). 20(6), 446-458.
 18. Sindhu, M., Kumar, A., Sainger, M., Jaiwal, R & **Chaudhary, D.**, In vitro plant regeneration of cowpea [*Vigna unguiculata* (L.) Walp.] via direct shoot organogenesis from primary leaf explants. *Annals of Biology*, (2018). 34(3), 249-254.
 19. Sainger, M., **Chaudhary, D.**, Dahiya, S., Jaiwal, R. and Jaiwal, P.K. Development of an efficient *in vitro* plant regeneration system amenable to Agrobacterium-mediated transformation of a recalcitrant grain legume blackgram (*Vigna mungo* L. Hepper). *Physiology and Molecular Biology of Plants*, 21 (2015) 505-517.
Impact Factor- 2.41
 20. Chauhan, C., Joshi, G., **Chaudhary, D.** and Das, S. An improved method for rapid analysis of promoters using modified sonication-assisted transient assay. *3 Biotech*, 8 (2018)198.
Impact Factor -2.45
 21. Malik, K., Birla, D., Yadav, H., Sainger, M., **Chaudhary D.** and. Jaiwal, P.K. Evaluation of carbon sources, gelling agents, growth hormones and additives for efficient callus induction and plant regeneration in Indian wheat (*Triticum aestivum* L.) genotypes using mature embryos. *Journal of Crop Science and Biotechnology*, 20 (2017)185-192.
Impact Factor- 2.837
 22. Verma, S., Malik, M., Kumar, P., **Chaudhary, D.**, Jaiwal, P.K. and Jaiwal, R., Susceptibility of four Indian grain legumes to three species of stored pest, bruchid (*Callosobruchus*) and effect of temperature on bruchids. *International Journal of Entomology Research*, 3 (2018) 5-10.
Impact Factor-0.211
 23. Chetan, C., Chaudhary, D., & Das. S. Functional analysis of MIR159b promoter in leaf and callus of transgenic Brassica juncea var. Varuna using promoter: GUS transcriptional reporter. *Annals of Biology*, (2019). 35(2), 167-172. **I.F.-0.316**
 24. Sindhu, M., Kumar, A., Sainger, M., Jaiwal, R and **Chaudhary, D.** In vitro plant regeneration of Cowpea (*Vigna unguiculata* (L.) Walp) via direct shoot organogenesis from primary leaf explants. *Annals of Biology*, 34 (2018) 249-254, 0970-0153
Impact Factor- 0.316
 25. Chhabra, G., **Chaudhary, D.**, Sainger, M. and **Jaiwal, P.K.** Genetic transformation of an Indian isolate of *Lemna minor* by *Agrobacterium tumefaciens* and recovery of transgenic plants. *Physiology and Molecular Biology of Plants*, 17 (2011) 129–136.
Impact Factor- 2.41
 26. Chikkara, S., **Chaudhary D.**, Sainger, M. and Jaiwal, P. K. A non-tissue culture approach for generating the transgenics of Indian mustard (*Brassica juncea*). *In Vitro Cellular & Developmental Biology-Plant*, 48 (2012) 7-14.
Impact Factor -2.252
 27. Sainger M, Sainger PA, Kumar A, Yadav H, Sindhu M and **Chaudhary D** (2015). Optimization of parameters for Agrobacterium mediated genetic transformation of mungbean (*Vigna radiata* L. Wilczek). Proceeding of National Seminar on Innovative Research in Life Sciences, Dept. of Zoology, MDU, Rohtak 68-74, 2015 ISBN: 978-81-920945-5.
 28. **Chaudhary D**, Sainger M, Kumar A, Yadav H, Sindhu M and Jaiwal R (2015)

Transient gus assay to optimize *agrobacterium* mediated genetic transformation of cowpea (*Vigna unguiculata* L.walp) Proc. Natl. Seminar on “Innovative Researches in Life Science”, 26-30, ISBN: 978-81-920945-5-7 (2015).

Book published:

1. P. K. Jaiwal, Anil K. Chhillar, **Darshna Chaudhary**, Ranjana Jaiwal, *Nutritional Quality Improvement in Plants* (2019): Editors: **Springer Nature publisher, Switzerland.**

Book chapters:

1. Sainger M, Chhillar, A K, **Chaudhary D**, Jaiwal, R and Jaiwal, P K (2019) Vitamin B6- C- and E- enrichment in crops, In: *Nutritional Quality Improvement in Plants*. Eds. Jaiwal, P.K., Chhillar, A.K., **Chaudhary, D.**, Jaiwal, R. 2019 Springer Nature.
2. Sainger M, Sainger PA, **Chaudhary D**, Jaiwal R, Singh RP, Dhankher OP, Jaiwal PK (2015) GM Crops for Developing World in the Era of Climate Change: For Increase of Farmer’s Income, Poverty Alleviation, Nutrition and Health. In *Genetic Manipulation in Plants for Mitigation of Climate Change* (pp. 223-241). Springer, New Delhi.
3. Kapoor S, Parmar SS, Yadav M, **Chaudhary D**, Sainger M., Jaiwal R, Jaiwal PK (2015) Agrobacterium Protocols: Sesame (*Sesamum indicum* L.), In: *Methods in Molecular Biology*, Wang, K. (ed.), Volume 2, 1224, pp 37-45. DOI 10.1007/978-1-4939-1658-0_4, © Springer Science+Business Media New York.
4. Dahiya, S., **Chaudhary, D.**, Jaiwal, R., Dhankher, O., & Singh, R., Jaiwal, P.K. (2008). Elemental biofortification of crop plants. Plant membrane and vacuolar transporters. CABI International, Wallingford/Cambridge, 345-371.