

Resume

Dr. Ravinder Singh, Ph.D.

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RESEARCH INTERESTS:

To understand the molecular mechanisms and gene interactions underlying important agronomic traits in crop plants.

CORE COMPETENCIES

Next generation sequencing technologies: Good hands-on experience of using next-generation sequencing (sequencing-by-synthesis) technologies for SNP development and targeted re-sequencing

SNP genotyping: Ability to use and interpret SNP data generated with different FRET-based technologies (KASP assay, TaqMan chemistry and infinium assays)

Microarray technologies: experienced with setting up and data analysis of hybridization-based gene expression experiments

Basic laboratory techniques: Extensive hands-on experience of extraction of nucleic acids (both DNA and RNA), PCR amplification and gel electrophoresis

R-Language and Bioinformatics skill: Use of R for basic bioinformatics tools related to large sequence datasets, good experience of sequence data analysis

Association analysis: Have conducted association analysis in common bean, bread wheat and *Brassica juncea*

Experimental field data collection and analysis: In-depth understanding and knowledge of methods, techniques, statistical analysis procedures used in plant genomic and morphological analysis of various agronomically important traits

EDUCATION

Ph.D. Plant Sciences (2008)

Major: Plant Breeding, Genetics, Agricultural Botany

Thesis: Development and mapping of SSR markers in bread wheat.

University: Choudhary Charan Singh University, Meerut (UP) India

PROJECTS/GRANTS

S. No	Title of Project	Funding Agency	Status	PI/Co-PI	Budget (in Lakhs)
1	Germplasm Characterisation and Trait discovery in wheat using Genomic approaches and its integration for improving Climate resilience, Productivity, and nutritional quality	DBT (2020-2025)	Ongoing	PI	50.44
2	Genetic Dissection of Heat Tolerance in Wheat Using Multiple Bi-parental RIL Mapping Populations	DBT (2015-2018)	Completed	Co-PI	105.378
3	SSR-based characterization of powdery mildew resistance genotypes in cucumber (<i>Cucumis sativus</i> L.)	DBT (2015-2018)	Completed	Co-PI	32.53
4	Isolation, identification and characterization of plant viruses of solanaceous crops in different agro-climatic zones of Jammu region	DBT (2014-2017)	Completed	Co-PI	51.972
5	Development of Single Nucleotide Polymorphism for <i>Brassica juncea</i>	DBT (2013-2016)	Completed	PI	58.43
6	Diversity analysis of <i>Pseudomonas fluorescens</i> and its utilization of disease suppression and nutrient management	DST (2012-2015)	Completed	Co-PI	17.5
Total budget					316.25

PUBLICATIONS (Year-wise)

S. No	Publication Title	NAAS Rating (2023)	Impact Factor (2022)
1	J Sudan, S Sharma, RK Salgotra, RK Pandey, D Neelam and Ravinder Singh (2023) Elucidating the process of SNPs identification in non-reference genome crops. Journal of Biomolecular Structure and Dynamics . DOI: 10.1080/07391102.2023.2194002	11.24	4.4
2	Kumar S, Jacob SR, Mir RR, Vikas VK, Kulwal P, Chandra T, Kaur S, Kumar U, Kumar S, Sharma S, Singh R , Prasad S, Singh AM, Singh AK, Kumari J, Saharan MS, Bhardwaj SC, Prasad M, Kalia S and Singh K (2022) Indian Wheat Genomics Initiative for Harnessing the Potential of Wheat Germplasm Resources for Breeding Disease-Resistant, Nutrient-Dense, and Climate-Resilient Cultivars. Frontiers in Genetics . 13:834366. doi: 10.3389/fgene.2022.834366	10.77	3.7

3	Nazir Muslima, Mahajan Reetika, Mansoor Sheikh, Rasool Sheezan, Mir Rakeeb Ahmad, Singh Ravinder , Thakral Vandana, Kumar Virender, Sofi Parvaze A., El-Serehy Hamed A., Hefft Daniel Ingo, Zargar Sajad Majeed (2022) Identification of QTLs/ Candidate Genes for Seed Mineral Contents in Common Bean (<i>Phaseolus vulgaris</i> L.) Through Genotyping-by-Sequencing. Frontiers in Genetics 13; https://doi.org/10.3389/fgene.2022.750814	10.77	3.7
4	Sudan Jebi, Singh Ravinder and Salgotra RK (2022) Microsatellites-based population analysis revealed microdiversity in two major genepools of <i>Brassica juncea</i> . <i>Nucleus</i> (2022) https://doi.org/10.1007/s13237-021-00351-6	5.65	1.8
5	Sudan Jebi, Singh Ravinder , Mahajan Reetika and Salgotra RK (2021) Deconstructing molecular phylogenetic relationship among cultivated and wild <i>Brassica</i> species. Genetic Resources and Crop Evolution 68: 2281-2288	7.88	2.0
6	Sharma, S., Dar, A., Gupta, S., & Singh, R. (2021). Evaluation of resistant genotypes and their characterization using molecular markers linked for powdery mildew resistance in cucumber (<i>Cucumis sativus</i> L.). Plant Genetic Resources: Characterization and Utilization , 19(6), 497-502. doi:10.1017/S1479262121000605	7.28	1.1
7	Gupta Nancy , Zargar Sajad Majeed, Singh R , Mahajan R, Nazir Muslima and Salgotra RK (2020) Marker association study of yield attributing traits in common bean (<i>Phaseolus vulgaris</i> L.). Molecular Biology Reports 47 (9), 6769-6783	8.74	2.8
8	Sudan J, Singh Ret. al. (2019) ddRAD sequencing-based identification of inter-genepool SNPs and association analysis in <i>Brassica juncea</i> . BMC Plant Biology (19): 594	11.26	5.3
9	Sudan J, Raina M and Singh R (2018) Plant epigenetic mechanisms: role in abiotic stress and their generational heritability. 3 Biotech 8(3): 172	8.89	2.8
10	Mahajan R, Salgotra RK, Singh R and Zargar SM (2017) Linkage disequilibrium based association mapping of common bean: A collection of Jammu and Kashmir, India. 3 Biotech 7(5): 295	8.89	2.8
11	Mahajan R, Zargar SM, Singh R , Salgotra RK, Farhat S and Sonah H (2017) Population structure analysis and selection of core set from among common bean genotypes from Jammu and Kashmir, India. Appl. Biochem Biotechnol. 182 (1):16-28	9.09	3.0
12	Sudan J, Raina M, Singh R , Mustafiz A and Kumari S (2017) A modified protocol for high-quality DNA extraction from seeds rich in secondary compounds. Journal of Crop Improvement 31: 5, 637-647	7.3	1.3
13	Sudan J, Khajuria P, Gupta SK and Singh R (2016) Analysis of molecular diversity in Indian and Exotic genotypes of <i>Brassica juncea</i> using SSR markers. Ind. Journal of Genetics and Plant Breed 76 (3).	7.34	0.77