CV

1. Name: Dr. Kashmir singh

2. Designation: Associate Professor

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4. Area of Specialization: Plant Biotechnology

5. Education

Degree	Institution	Fields	Year
Ph.D	CSIR-IHBT	Plant Biotechnology	2007
M.Sc	GNDU, Amritsar	Botany	2000
B.Sc	GNDU, Amritsar	Medical	1998

6. Award/ Honours/ Fellowship etc.

i. INSA Bilateral Exchange fellowship: 2018
ii. Visiting scientist, McGill University, Canada.
iii. Post-doctoral research associate, Missouri State University, USA.
iv. Marie Curie post doc fellowship, Institute of molecular Biology and Biotechnology, Adam Mickiewicz University, Poland.
v. Awarded Travel fellowship by Adam Mickiewicz University, Poland for invited talk under KNOW RNA program-2016.
vi. Awarded Travel grant by DST, India to attend Post-Transcriptional Gene Expression Regulation in Plants, An international symposium of the Polish Society of Experimental Plant Biology, held at Adam Mickiewicz University, Poland (2014)

7. Academic activities:

I. Member of board of studies in Biotechnology, PU, Chandigarh
II. Member of board of control in Biotechnology, PU, Chandigarh
III. Member of Board of Studies in Bioinformatics, PU, Chandigarh.
IV. Chairman of board of control in Biotechnology, at MRSPT University, Bathinda, Punjab.
V. Member of research monitoring committee in Botany, PU, Chandigarh.
VI. Reviewer of US-Israel BARD and MARD Grants.
VII. Editorial Board member and Reviewer of journals of internationals repute.

8. Invited Lectures:

1) Modern sequencing technologies and their applications in crop improvement at Sri Guru Granth Sahib World University, Fatehgarh Sahib. Sept 20, 2019

2) Role of modern sequencing technologies in improvement of crop plants, at BBK DAV College, Lawrence Road , Amritsar, March 14, 2019.

3) Molecular characterization of structural and regulatory aspects of saponin biosynthesis in Chlorophytum borivilianum at 9th Annual Conference of the American Council for Medicinally Active Plants, International conference on medicinal, aromatic and nutraceutical plants, from mountainous areas, February 14-16, 2019, Dehradun, India

4) Genetically modified crops: their production and biosafety issues " at Govt College Mohali, Nov 13, 2018.

5) "Junkomics: mining the long non-coding RNAs, emerging players of gene regulation" at CSIR, IHBT Palampur, Sept 5 2018.

6) Decoding fungal resistance mechanism in grapes and genome editing for production of true potato seeds" at Department of Gene expression, UAM, Poznan, Poland on 19 July 2018.

7) Long Non-coding RNAs: new players in gene regulation at Dr GS Khush, department of agricultural biotechnology, Punjab Agriculture university, Ludhiana, Feb 2nd, 2018

8) Biotechnology: future of Mankind at Zonal institute of education and training, Chandigarh, July 26, 2017.

9) Long Non-Coding RNAs and their Impact on Plant Development and Stress Response at Agrigenomics India, 2017 held on July 20-21, 2017 at Chandigarh.

10) Transgenic crops: From hype to hope and reality, at Akal University, Talwandi Sabo, Punjab India on Nov 23, 2016

11) Exploring medicinal plants: A treasure for nutraceutical and therapeutic agents, at Collegium Biologicum, Adam Mickiewicz University, Poznan, Poland on Sept 26, 2016.

12) Genetic engineering: What we have achieved and where we are going on. PGGC, Sector 11, Chandigarh. Science day, Feb 28, 2016.

13) Role of Next generation sequencing technologies in accelerating research in plant sciences at National conference NCSTPB-2016. LKC, Jalandhar, India Feb 11-12, 2016.

14) Functional Genomics Studies in *Chlorophytum borivilianum*, A Plant with High Medicinal Value at Agrigenomics India, Chandigarh. Aug 20-21, 2015.

15) Functional genomics of saponins biosynthesis in C*hlorophytum borivilianum.* EPS Montreal International Gene Conference, Montreal, Canada. Nov 3-4 2011.

16) Deep sequencing and analysis of small RNAs to detect new viruses infecting grapevines. Virology Retreat. Noble Foundation, Oklahama USA. April 30th –May 2nd, 2010.

9. Research Projects in lab:

Ongoing:

S. No	Name of project	Funding agency	Duration
1	Targeted editing of Potato Genome for production of true potato seeds (TPS).	NASF-ICAR	2018-2021
2	Deep sequencing of small RNAs to identify and characterize microRNAs from *Chlorophytum borivilianum*	CSIR	2017-2020
3	Genome wide identification and characterization of powdery mildew responsive NBS-LRR genes in grapes	SERB	2017-2020

Completed:

S. No	Name of project	Funding agency	Duration
1	An integrated approach of molecular breeding for downy and powdery mildew resistance in grapes	DBT	2015-2018
2	Silencing of Cap Binding Proteins (cbp20 and cbp80) to study their role in abiotic stress tolerance in plants	UGC	2013-2017
3	*De novo* transcriptome sequencing of *Chlorophytum borivilianum* using RNA-Seq Technology	CSIR	2013-2015
4	A study on expression and characterization of lipolytic enzymes in dormant stage of *Mycobacterium tuberculosis* by transcriptome analysis.	DBT	2013-2016
5	Functional Genomics of Saponins biosynthesis in *Chlorophytum borivillianum*	CSIR	2008-2011
6	Flavonoid biosynthesis in *Phyllanthus emblica*: Gene cloning, functional characterization and	DST	2008-2011

	regulation		

10. List of publications:

1. Garima Bhatia, Aman Singh, Deepika Verma, Shailesh Sharma, **Kashmir Singh** (2019) Genome-wide investigation of regulatory roles of lncRNAs in response to heat and drought stress in Brassica juncea (Indian mustard). Environmental and Experimental Botany (in press).
2. Pushpender Kumar Sharma, Vinay Sharma; Shailesh Sharma; Garima Bhatia; **Kashmir Singh**; Rohit Sharma (2019) Comparative Metatranscriptome analysis revealed broad Response of Microbial Communities in two soil types, Agriculture versus Organic Soil. Journal of Genetic Engineering and Biotechnology (https://doi.org/10.1186/s43141-019-0006-3).
3. Ritu Kapoor, Gulshan Kumar, Preeti Arya, Rajdeep Jaswal, Priyanka Jain, **Kashmir Singh**, Tilak Raj Sharma (2019) Genome-Wide Analysis and Expression Profiling of Rice Hybrid Proline-Rich Proteins in Response to Biotic and Abiotic Stress, and Hormone Treatment. Plants *8*(9), 343; https://doi.org/10.3390/plants8090343.
4. Bhusan Gurung, Savita Bains, Dipanwita Saha, **Kashmir Singh**, Pardeep K. Bhardwaj, Dinabandhu Sahoo (2019) Molecular cloning and characterization of *farnesyl pyrophosphate synthase* gene from *Panax sokpayensis*, a new *Panax* species from Sikkim Himalaya. **Journal of Applied Research on Medicinal and Aromatic Plants**. https://doi.org/10.1016/j.jarmap.2019.100215.
5. Shumayla, Tyagi S, Sharma A, **Singh K**, Upadhyay SK. (2019) Genomic dissection and transcriptional profiling of Cysteine-rich receptor-like kinases in five cereals and functional characterization of TaCRK68-A. **International Journal of Biological Macromolecules** 134 (2019) 316–329
6. Verma D, Lakhanpal N, **Singh K** (2019) Genome-wide identification and characterization of abiotic-stress responsive SOD (superoxide dismutase) gene family in Brassica juncea and B. rapa. **BMC Genomics**. **20**:227 DOI: 10.1186/s12864-019-5593-5.
7. Bhatia G, Sharma S, Upadhyay SK, **Singh K** (2019) Long Non-coding RNAs Coordinate Developmental Transitions and Other Key Biological Processes in Grapevine. **Scientific reports 9**, Article number: 3552 DOI:10.1038/s41598-019-38989-7.
8. Goyal N, Bhatia G, Sharma S, Garewal N, Upadhyay A, Upadhyay SK, **Singh K** (2019) Genome-wide characterization revealed role of NBS-LRR genes during powdery mildew infection in Vitis vinifera. **Genomics** https://doi.org/10.1016/j.ygeno.2019.02.011.
9. Savita Bains, Vasundhara Thakur, Shailesh Sharma, Jagdeep Kaur, **Kashmir Singh**, Ravneet Kaur (2018) Elucidating genes involved in sesquiterpenoid and flavonoid biosynthetic pathways in ***Saussurea lappa*** by de novo transcriptome analysis. **Genomics,** https://doi.org/10.1016/j.ygeno.2018.09.022.
10. **Singh K**, Kumar A, Kajal M, Singh B (2019) Characterization and expression analysis of chalcone synthase and chalcone isomerase genes in *Phyllanthus emblica* (L.).

Journal of Plant Biochemistry and Biotechnology, Volume 28, Issue 1, pp 105–113 (DOI: doi.org/10.1007/s13562-018-0467-5).

11. Lakhanpal N, Verma D, Kaur R, **Singh K** (2018) Characterization of cold responsive uncoupling protein1 (UCP1) gene from *Brassica juncea* L. (Czern. and Coss.)". ***Journal of Plant Biochemistry and Biotechnology*** Volume 27, Issue 1, pp 108–117 **(**DOI 10.1007/s13562-017-0421-y**)**.
12. Kaur G, Dogra V, Kumar R, Kumar S, **Singh K** (2018) Fabrication of iron oxide nanocolloids using metallosurfactant-based microemulsions: antioxidant activity, cellular, and genotoxicity toward Vitis vinifera. **Journal of Biomolecular Structure and Dynamics**, https://doi.org/10.1080/07391102.2018.1442251
13. Manisha Chownk, Jashandeep Kaur, **Kashmir Singh**, Jagdeep Kaur (2018) mbtJ: an iron stress-induced acetyl hydrolase/esterase of *Mycobacterium tuberculosis* helps bacteria to survive during iron stress. ***future microbiology***. DoI: 10.2217/fmb-2017-0194.
14. Gurjaspreet Singh, Kavita Chowdhary, Pinky Satija, Akshpreet Singh, Baljinder Singh, **Kashmir Singh**, Cristo´ bal Espinosa, M. Angeles Esteban, Rakesh Sehgal, and Vikas Verma (2018) Synthesis and Immobilization of Benzothiazole-Appended Triazole-Silane: Biological Evaluation and Molecular Docking Approach. ***Chemistry select***. DOI: 10.1002/slct.201703017.
15. Gurjaspreet Singh, Aanchal Arora, Akshpreet Singh, Pooja Kalra, Sunita Rani, **Kashmir Singh**, Indresh K. Maurya, and Rahul S. Mandal (2018) Molecular Design, Synthesis, Computational Screening, Antimicrobial Evaluation and Molecular Docking Study of Acetylinic Isatin Hybrids. ***Chemistry select***. DOI: 10.1002/slct.201703051
16. Kajal M**, Singh K (2017)** Small RNA profiling for identification of miRNAs involved in regulation of saponins biosynthesis in *Chlorophytum borivilianum*. ***BMC Plant Biology*** 17(1):265. (DOI: 10.1186/s12870-017-1214-0)
17. Shumayla, Sharma S, Taneja M, Tyagi S, **Singh K** and Upadhyay SK (2017) Survey of High Throughput RNA-Seq Data Reveals Potential Roles for lncRNAs during Development and Stress Response in Bread Wheat. ***Front. Plant Sci.*** 8:1019. doi: 10.3389/fpls.2017.01019
18. Manisha Chownk, Aashish Sharma, **Kashmir Singh**, and Jagdeep Kaur (2017) mesT, a unique epoxide hydrolase, is essential for optimal growth of *Mycobacterium tuberculosis* in the presence of styrene oxide. ***Future Microbiology***. **12 (**6**):** 527-546 (doi: 10.2217/fmb-2016-0206)
19. Garima Bhatia, Neetu Goyal, Shailesh Sharma, Santosh Kumar Upadhyay and **Kashmir Singh** (2017) Present Scenario of Long Non-Coding RNAs in Plants. ***Non-coding RNAs***. 3, 16; doi:10.3390/ncrna3020016
20. Supriya Ghosh, **Kashmir Singh**, Arun K. Shaw, Ikbal Azahar, Sinchan Adhikari, Ujjal Ghosh, Utpal Basu, Sankhajit Roy, Suman Saha, Ang R. Sherpa, Zahed Hossain (2017) Insights into the miRNA-mediated response of maize leaf to arsenate stress. ***Environmental and Experimental Botany*** 137 (2017) 96–109.
21. Singh B, Thakur V, Bhatia G, Verma D, **Singh K** (2016) Eco-friendly and Cost-effective Use of Rice Straw in the Form of Fixed Bed Column to Remove Water Pollutants. ***J Bioremediat Biodegrad*** 7: 374. doi: 10.4172/2155-6199.1000374
22. Kumar A, Kumar S, Bains S, Vaidya V, Singh B, Kaur R, Kaur J and **Singh K** (2016) *De novo* Transcriptome Analysis Revealed Genes Involved in Flavonoid and Vitamin

C Biosynthesis in *Phyllanthus emblica* (L.). ***Front. Plant Sci****.* 7:1610. doi: 10.3389/fpls.2016.01610

23. S, Sharma S, Kumar R, Mendu V, **Singh K** and Upadhyay SK (2016). Genomic dissection and expression profiling revealed functional divergence in Triticum aestivum leucine rich repeat receptor like kinases (TaLRRKs). ***Front. Plant Sci.*** **7**:1374. doi: 10.3389/fpls.2016.01374.
24. Shumayla , Sharma S, Pandey AK, **Singh K**, Upadhyay SK (2016) Molecular Characterization and Global Expression Analysis of Lectin Receptor Kinases in Bread Wheat (Triticum aestivum). ***PLoS ONE*** 11(4): e0153925. doi:10.1371/journal. pone.0153925
25. Lakhanpal N, Kaur R, **Singh K** (2016) Characterization of nuclear cap binding complex protein genes (*CBP20* and *CBP80*) from *Brassica juncea.* ***Plant Gene*** 5:87-99.
26. Kumar R, Kumar A, Sharma NK, Kaur N, Chunduri V, Chawla M, **Singh K**, et al. (2016) Soft and Hard Textured Wheat Differ in Starch Properties as Indicated by Trimodal Distribution, Morphology, Thermal and Crystalline Properties. ***PLoS ONE*** 11(1): e0147622. doi:10.1371/journal.pone.0147622
27. Jyoti Khurana, Rakesh Kumar, Arbind Kumar, **Kashmir Singh**, Ranvir Singh, Jagdeep Kaur (2015) New Insight into Old Bacillus Lipase: Solvent Stable Mesophilic Lipase Demonstrating Enzyme Activity towards Cold. ***Journal of Molecular Microbiology and Biotechnology*** 10/2015; 25(5):340-348. DOI:10.1159/000439276
28. Kumar S, Kalra S, Kumar A, Singh B, Kaur J, **Singh K** (2015) RNA-Seq mediated root transcriptome analysis of *Chlorophytum borivilianum* for identification of genes involved in saponin biosynthesis. ***Functional & Integrative Genomics*** **(**DOI 10.1007/s10142-015-0465-9**)**.
29. Mandhan V, **Singh K** (2015) Identification of Novel MicroRNAs and their Target Prediction in *Stevia rebaudiana*. ***Transcriptomics*** 2: 104. doi:10.4172/2329-8936.1000104
30. Kumar R, Arora S, **Singh K**, Garg M. (2015) Puroindoline allelic diversity in Indian wheat germplasm and identification of new allelic variants. ***Breeding science***. 65(4): 319–326.
31. Kumar A, Randhawa V, Achraya V, **Singh K**, Kumar S (2016) Amino acids flanking the central core of Cu,Zn superoxide dismutase are important in retaining enzyme activity after autoclaving. ***Journal of Biomolecular Structure and Dynamics*** 34(3):475-85 (Doi: 10.1080/07391102.2015.1049551).
32. Dogra N, Arya S, **Singh K**, Kaur J (2015) Differential expression of two members of Rv1922-LipD operon in *Mycobacterium tuberculosis*. Does Rv1923 qualify for the membership? ***Pathogen and diseases*****.** 73(5). pii: ftv029. doi: 10.1093/femspd/ftv029.
33. Gupta Y, Pathak AK, **Singh K**, Mantri SS, Singh SP and Tuli R (2015) *De novo* assembly and characterization of transcriptome during early-stage fruit development in two genotypes of *Annona squamosa* L. ***BMC Genomics*** 14;16:86. **(DOI 10.1186/s12864-015-1248-3).**
34. Kaur G, Kumar R, **Singh K**, Sharma P (2015) Delineating bacterial community structure of polluted soil samples collected from cancer prone belt of Punjab, India.

3Biotech DOI 10.1007/s13205-014-0270-5.

35. Kumar A, Singh B, Kaur J, **Singh K** (2015) Functional characterization of flavanone 3-hydroxylase gene from *Phyllanthus emblica* (L.). ***Journal of Plant Biochemistry and biotechnology*** 24: 453–460 (DOI 10.1007/s13562-014-0296-0).

36. Alaba S, Piszczalka P, Pietrykowska H, Pacak AM, Sierocka I Nuc PW, **Singh K**, Plewka P, Jarmolowski A, Karlowski WM, Szweykowska-Kulinska Z (2014) Liverwort *Pellia endiviifolia* shares microtranscriptomic traits that are common to green algae and land plants. ***New Phytologist*** doi: 10.1111/nph.13220.

37. Kalra S, Kamar S, Kaur J, **Singh K** (2015) Molecular analysis of *Squalene epoxidase* gene from *Chlorophytum borivilianum*. ***Journal of Plant Biochemistry and biotechnology*** 24: 417–424 DOI 10.1007/s13562-014-0292-4.

38. Singh B, **Singh K** (2016) Microbial degradation of herbicides. ***Critical reviews in microbiology*** doi:10.3109/1040841X.2014.929564.

39. Kalra S, Puniya BL, Kulshreshtha D, Kumar S, Kaur J, Ramachandaran S, **Singh K** (2013) *De novo* transcriptome sequencing reveals important molecular networks and metabolic pathways of the plant, *Chlorophytum borivilianum*. ***PLOS ONE*****, Doi 10.1371/journal.pone.0083336.**

40. Singh G, Arya S, Narang D, Jadeja D, Singh G, Gupta UD, **Singh K**, Kaur R (2014) Characterization of an acid inducible lipase Rv3203 from *Mycobacterium tuberculosis* H37Rv. ***Molecular Biology Reports*** (10.1007/s11033-013-2861-3) 41:285-296.

41. Kaur R, **Singh K**, Singh J (2013). A root-specific wall-associated kinase gene, HvWAK1, regulates root growth and is highly divergent in barley and other cereals. **Functional and Integrative Genomics**, 13: 167-177, DOI 10.1007/s10142-013-0310-y.

42. Kalra S, Kumar S, Lakhanpal N, Kaur R, **Singh K** (2013) Characterization of *squalene synthase* gene from *Chlorophytum borivilianum* (Sant. and Fernand). **Molecular Biotechnology,** 54(3):944-53 (DOI 10.1007/s12033-012-9645-1).

43. Singh B, Kaur J, **Singh K** (2014) Microbial Degradation of an Organophosphate Pesticide, Malathion. **Critical Reviews in Microbiology**, 40(2):146-54. DOI: 10.3109/1040841X.2013.763222.

44. Singh B, Kaur R, **Singh K** (2013) Bioremediation of malathion in soil by mixed *Bacillus* culture. **Advances in Bioscience and Biotechnology,** 4: 674-678.

45. Mandhan V, Kaur J, **Singh K** (2012) smRNAome sequencing to identify conserved and novel microRNAs in *Stevia rebaudiana* Bertoni. **BMC plant biology**, **12**:197 doi:10.1186/1471-2229-12-197.

46. Kumar H, **Singh K**, Kumar S (2012) *2C-methyl-D-erythritol 2,4-cyclodiphosphate synthase* from *Stevia rebaudiana* Bertoni isa functional gene. **Molecular Biology reports**, DOI 10.1007/s11033-012-1998-9.

47. **Singh K**, Talla A, Qiu W (2012) Small RNA profiling of virus-infected grapevines: Evidences for virus infection-associated and variety-specific miRNAs. **Functional and Integrative Genomics**, DOI 10.1007/s10142-012-0292-1.

48. Kumar S, Kalra S, Kumar S, Kaur J, **Singh K** (2012) Differentially expressed transcripts from leaf and rhizome tissue of *Chlorophytum borivilianum*: a plant with high medicinal value. **Gene**, 511: 79-87; DOI 10.1016/j.gene.2012.09.046.

49. Singh R, Dhawan S, **Singh K**, Kaur J (2012) Cloning, expression and characterization of a metagenome derived thermoactive/thermostable pectinase. **Molecular Biology Reports**. 39: 8353-61; DOI 10.1007/s11033-012-1685-x.

50. Paul A, Mouki RC, **Singh K**, Kumar S (2012) *CsNAM-like protein* encodes a nuclear localised protein and responds to varied cues in tea [*Camellia sinensis* (L.) O. Kuntze]. **Gene**, 502: 69-74; Doi: 10.1016/j.gene.2012.04.017.

51. Kumar A, **Singh K** (2012) Isolation of high quality RNA from *Phyllanthus emblica* and its evaluation by downstream applications. **Molecular Biotechnology**, 52: 269-75; DOI: 10.1007/s12033-011-9492-5.

52. Rani A, **Singh K**, Ahuja PS, Kumar S (2012) Molecular regulation of catechins biosynthesis in tea (*Camellia sinensis* (L.) O. Kuntze). **Gene**, 495: 205-210; 10.1016/j.gene.2011.12.029. (* Joint first author).

53. Singh B, Kaur J, **Singh K** (2012) Transformation of malathion by *Lysinibacillus* sp. strain KB1 isolated from soil. **Biotechnology letters**, 34: 863-67; DOI 10.1007/s10529-011-0837-8.

54. Singh B, Kaur J, **Singh K** (2012) Microbial Remediation of Explosive Waste. **Critical Reviews in Microbiology**, 38(2): 152–167.

55. Muoki RC, Paul A, Kumari A, **Singh K**, Kumar S (2011). An Improved Protocol for the Isolation of RNA from Roots of Tea (*Camellia sinensis* (L.) O. Kuntze). **Molecular Biotechnology**, 52: 82-88; DOI 10.1007/s12033-011-9476-5.

56. Zhang Y*, **Singh K***, Kaur R, Qiu W (2011) Association of a novel DNA virus with the grapevine vein-clearing and vine decline syndrome. **Phytopathology** 101: 1081-90; doi: 10.1094/PHYTO-02-11-0034 (* Joint first author).

57. Ghawana S, Paul A, Kumar H, Kumar A, Singh H, Bhardwaj PK, Rani A, Singh RS, Raizada J, **Singh** K and Kumar S (2011) An RNA isolation system for plant tissues rich in secondary metabolites. **BMC Research Notes**, 4, 85.

58. Singh B, Kaur J, **Singh K** (2011) Biodegradation of malathion by *Brevibacillus* sp. strain KB2 and *Bacillus cereus* strain PU. **World Journal of Microbiology and Biotechnology**, 28: 1133-41; DOI: 10.1007/s11274-011-0916-y.

59. Singh B, Kaur J, **Singh K** (2011) 2,4,6-trinitrophenol degradation by *Bacillus cereus* isolated from a firing range. **Biotechnology letters**, 33: 2411-15; DOI: 10.1007/s10529-011-0726-1.

60. Sharma, PK., **Singh, K.**, Singh, R., Capalash, N., Ali, A., et al (2011) Characterization of a thermostable lipase showing loss of secondary structure at ambient temperature. **Molecular Biology Reports**. 39: 2795-804; DOI: 10.1007/s11033-011-1038-1.

61. Kaur, H., Kumar, S., **Singh, K.,** Bharadwaj, L.M. (2011) Divalent cation induced active ring formation. **Intl. J. Biological Macromolecules**. 48, 793-797.

62. Kaur, H., Chaudhary, A., Kaur, I., **Singh, K.,** Bharadwaj, L.M. (2011) Transportation of drug-gold nanocomposites by actinomyosin motor system. **Journal of Nanoparticle Research** 13: 2295-2303.

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64. **Singh, K.,** Rani, R., Ahuja, PS., Kumar, S. (2010) Present status and future

prospects on catechins biosynthesis in tea. **Journal of Plant Biology** 37, 1-23.

65. Kaur, H., Kumar, S., Kaur, I., **Singh, K.,** Bharadwaj, L.M. (2010). Low-intensity magnetic fields assisted alignment of actin filaments. **International Journal of Biological Macromolecules**, 47, 371-374, doi:10.1016/j.ijbiomac.2010.06.005.

66. Singh, B., Kaur, J., **Singh, K.** (2010). Production of Biodiesel from Used Mustard Oil and Its Performance Analysis in Internal Combustion Engine. **Journal of Energy Resources and Technology**, 132, 031001-1.

67. Kaur R, **Singh K** (2010) Orchid Transformation: Protocol, Problems and Practical Applications. **Asian j. Exp. Biol. Sci**. 1: 711- 718

68. **Singh, K.**, Rani, A., Paul, A., Dutt, S., Joshi, R., Gulati, A., Ahuja, P.S., Kumar, S. (2009). Differential display mediated cloning of *anthocyanidin reductase* gene from tea (*Camellia sinensis* (L.) O. Kuntze) and its relationship with the concentration of epicatechin yield. **Tree Physiology**. 29, 837-846.

69. **Singh**, K., Kumar, S., Rani, A., Gulati, A., Ahuja, P.S. (2009). Phenylalanine ammonia-lyase (PAL) and cinnamate 4-hydroxylase (C4H) and catechins (flavan 3-ols) accumulation in tea. **Functional and Integrative Genomics**, 9, 125-134.

70. Rani, A., **Singh, K.,** Kumar, S., Ahuja, P.S. (2009). p-Coumarate: CoA ligase as a key gene in the yield of catechins in tea [*Camellia sinensis* (L.) O. Kuntze]. **Functional and Integrative Genomics**, 9, 271-275.

71. **Singh**, K., Kumar, S., Yadav, S.K., Ahuja, P.S. (2009). Characterization of *Dihydroflavonol 4-reductase (DFR)* cDNA in tea (*Camellia sinensis* (L.) O. Kuntze). **Plant Biotechnology Reports**. 3, 95-101.

72. **Singh, K.,** Kumar, S., Ahuja, P.S. (2009). Differential expression of *Histone H3* gene in tea (*Camellia sinensis* (L.) O. Kuntze) suggests its role in growing tissue. **Molecular Biology Reports**. 36, 537-542**.**

73. **Singh**, K., Rani, A., Kumar, S., Sood, P., Yadav, S.K., Ahuja, P.S. (2008). An early gene of flavonoid pathway, *flavanone 3-hydroxylase*, exhibits a positive relationship with catechins content in tea (*Camellia sinensis* (L.) O. Kuntze).**Tree Physiology**. 28, 1349–1356.

74. **Singh, K.,** Paul, A., Kumar, S., Ahuja, P.S. (2008). Isolation and differential expression of *QM Like protein* homologue from tea (*Camellia sinensis* L. (O.) Kuntze). **Molecular Biology Reports**. 36, 921-927.

75. Singh, B., Kaur, R., **Singh, K.** (2008). Characterization of Rhizobium strain isolated from roots of *Trigonella foenumgraecum* (fenugreek). **African Journal of Biotechnology**. 7, 3674-3679.

76. **Singh** K, Raizada J, Bhardwaj P, Ghawana S, Rani A, Singh H, Kaul K, Kumar S. (2004). 26S rRNA based internal control gene primer pair for RT-PCR based quantitative expression studies in diverse plant species. **Analytical Biochemistry**. 335, 330-333.

Book chapter

S. No	Title of the Book Chapter and/ Book	Authors (as per sequence)	Year	Publisher

1	Applications of Landscape Genetics to Study the Effect of Varying Landscapes and Environmental Challenges in Plant Populations. In Molecular Approaches in Plant Biology and Environmental Challenges. Energy, Environment, and Sustainability,	Akshay Nag, Anshu Alok and **Kashmir Singh**	2019	Springer Nature, Singapore
2	Bacillus: As Bioremediator Agent of Major Environmental Pollutants. In Bacilli and Agrobiotechnology, Edition I. Editors: M. Tofazzal Islam, M. Mahfuz Rahman, Piyush Pandey, Chaitanya Kumar Jha, Abhinav Aeron	Singh B, **Singh K**	2017	Springer International Publishing,
3	Microbial Remediation of Trace Metals from Aquatic System: An Overview. In Chemical Pollution Control with Microorganisms: Editor NA Anjum.	Singh B, **Singh K**	2017	Nova Science Publishers, Inc,
4	Degradation of TNP, RDX, and CL-20Explosives by Microbes. S. N. Singh (ed.), Biological Remediation of Explosive Residues,	Singh B, Kaur R, **Singh K**	2014	Springer
5	New Virus discovery by deep sequencing of small RNAs. In RNA Abundance Analysis: Methods and Protocols, Methods in Molecular Biology	**Singh K,** Kaur R, Qiu W	2012	Humana Press
6	*In-Vitro* Transportation of Drug Molecule by Actin Myosin Motor System., Chwee Teck Lim, James C.H. Goh (Eds.):	Kaur, H., Kumar, S., Kaur, I., **Singh, K.,** Bharadwaj, L.M.	2009	ICBME 2008, Proceedings 23, pp. 902–905.

List of papers published in Conferences /Symposia/ Seminars, etc.:

S. No	Title of the paper	Details of Conferences /Symposia/ Seminars	Date	City/Country
1	Identification of Nucleotide Binding Site Leucine Rich Repeats (NBS-LRR) genes associated with fungal resistance in *Vitis vinifera*	Plant & Animal Genome XXVI Conference,	January 13-17, 2018	San Diego, USA

2	Transcriptome-wide identification of transcription factors families in *Saussurea lappa*	Plant & Animal Genome XXVI Conference,	January 13-17, 2018	San Diego, USA
3	Decoding Long Non-coding RNAs in Grapevine (*Vitis vinifera*)	EMBO|EMBL Symposium: The Non-Coding Genome 2017	Sept 13-16, 2017	Heidelberg, Germany
4	Identification and Characterization of miRNAs Regulating Secondary Metabolism in Chlorophytum borivilianum.	EMBO|EMBL Symposium: The Non-Coding Genome 2017	Sept 13-16, 2017	Heidelberg, Germany
5	Deep Sequencing of small RNAs for identification of known and novel miRNAs in Chlorophytum borivilianum	Chandigarh Science congress-2017	March 9-11, 2017	Chandigarh, India
6	RNA-Seq mediated transcriptome analysis of *Chlorophytum borivilianum* for identification of genes involved in saponin biosynthesis	4th Post-EURASNET Symposium on RNA alternative Splicing	September 28–30, 2016	Poznan, Poland
7	Functional genomics studies of costunolide biosynthesis in Saussurea lappa	Plant & Animal Genome XXIV Conference,	January 9-13, 2016	San Diego, USA
8	Cap Binding Complex Proteins of Indian Mustard (*Brassica juncea*): Cloning, Characterization and Evaluation of their Role in Abiotic Stress Tolerance- *Brassica juncea*	Plant and Animal Genome XXIII Conference,	January 10-14, 2015	San Diego, USA
9	Cap Binding proteins of Indian mustard……Stress tolerance"	Chandigarh Science congress-2015	25-27 Feb, 2015	Chandigarh, India
10	Profiling of small RNAs to identify conserved and novel microRNAs in *Stevia rebaudiana* Bertoni	Post-Transcriptional Gene Expression Regulation in Plants, An international symposium of the Polish Society of Experimental Plant Biology	June 30th-July 2nd 2014	Poznan, Poland
11	smRNAome sequencing to identify conserved and novel microRNAs in Stevia rebaudiana	72nd Harden Conference - RNA regulators of gene expression	22—25 July 2012	Cambridge, UK

12	Structural and Functional Analysis of a Stress Responsive Gene from Barley	2012 National Fusarium Head Blight Forum, USA	December 4-6, 2012	Orlando, USA
13	Deep sequencing and analysis of small RNAs to detect new viruses infecting grapevines	Virology Retreat at Noble Foundation,	April 30th – May 2nd, 2010	Oklahama USA
14	Understanding the molecular aspects of saponins biosynthesis in *C. borivilianum*	*13th Punjab Science Congress*	Feb 7-9, 2010	*Chandigarh, India*
15	Dissection of defense pathways in the grapevine-powdery mildew interaction by employing Arabidopsis defense-related mutants.	10th International conference on grape breeding and genetics,	August 2010	Geneva, New York, USA.
16	Degradation of organophosphate pesticide, Malathion, by Bacillus sp isolated from soil.	11th international conference on environmental science and technology,	3-5 Sept, 2009.	Crete, Greece.

10. **List of Ph.D students (degree awarded)**

Guidance as supervisor:

S. No	Student's Name	Title of thesis
1	Savita Bains	Functional genomics studies of costunolide biosynthesis in *Saussurea lappa*
2	Monika Kajal	Identification and characterization of RNA mediated gene silencing components in the plant, *Chlorophytum borivilianum*
3	Neha Lakhanpal	Characterization of stress responsive genes, *Uncoupling protein1* (*UCP1*) and *Cap binding proteins* (*cbp20* and *cbp80*), from *Brassica juncea*
4	Vibha Mandhan	Mining the *Stevia rebaudiana* smRNAome for identification and characterization of microRNAs
5	Sunil Kumar	Functional genomics of saponins biosynthesis in *Chlorophytum borivilianum*
6	Avneesh Kumar	Cloning and Functional Characterization of Early Genes Involved in Flavonoid Biosynthesis in *Phyllanthus emblica* (L.)
7	Arun Rana	Bioprospecting thermostable superoxide dismutase from the flora of western Himalayas
8	Shikha Kalra	Cloning and Characterization of Early Genes Involved in Saponin Biosynthesis in *Chlorophytum borivilianum*
9	Hitesh Kumar	Molecular basis of stevioside biosynthesis in

		stevia rebaudiana bertoni, a source of non-calorific sweetener
10	Baljinder Singh	Microbial degradation of organophosphate pesticides and nitro-aromatic compounds

Guidance as Co-supervisor

S. No	Student's Name	Title of thesis
1	Nandita Dogra	A study on gene expression of lipolytic enzymes of *mycobacterium tuberculosis* h37ra, under *in-vitro* hypoxic stress simulation of wayne model: revelations by transcriptome analysis
2	Rohit Sharma	Allelic diversity of puroindolines in Indian wheat cultivars and their association with grain hardness and starch granules properties
3	Yogesh Gupta	Gene discovery for seedlessness in Annona fruits
4	Gurpreet Singh	Cloning and Characterization of lipase Lip V (Rv3203) and Lip L (Rv1497) from *Mycobacterium tuberculosis* H37Rv
5	Chalo Richard Mouki	Identification and Evaluation of Dehydration Responsive Transcriptome in *Camellia sinensis* (L.) O. Kuntze
6	Rajvinder Singh	Cloning of thermostable pectinase from metagenomic DNA: purification and biochemical characterization
7	Harsimran Kaur	Study of actomyosin based biomolecular motors for nanorobotics

11. **Any other important information(within 100 words)**

Patents

S No	Title	Inventor
01	**A method for rapid isolation of RNA and kit thereof**	Ghawana Sanjay, **Singh Kashmir**, Raizada J, Arti Rani, Bhardwaj Pradeep Kumar, Kumar Sanjay

Filed No.	Filed Date	Country	Grant Date	Patent No.
0344NF2005/IN	2006-03-30	INDIA	2014-03-18	259562
0344NF2004/WO	2006-07-31	PCT	2007-10-11	WO2007113614A1
0344NF2004/US	2008-09-29	USA	0000-00-00	
0344NF2004/DE	2008-10-09	DE	2013-06-12	EP2004822
0344NF2004/EP	2008-10-09	EP	2013-06-12	EP2004822
0344NF2004/GB	2008-10-09	GB	2013-06-12	EP2004822
0344NF2004/AU	2006-07-31	AU	2012-08-30	2006341291
0344NF2004/CN	2008-11-12	CN	2012-11-28	ZL20068005561.3

02	Title	Inventor
	method for cloning functional gene of copper/zinc superoxide dismutases using oligonucleotide primers A	Bhardwaj Pardeep Kumar, Kumar Arun, Kishore Amit, Ghawana Sanjay, Rani Arti, **Singh Kashmir**, Singh Harsharan, Singh Ravi Shankar, Kumar Hitesh, Sood Payal, Dutt Som, Kumar Sanjay, Ahuja Paramvir Singh

Filed No.	Filed Date	Country	Grant Date	Patent No.
0035NF2008/US	2010-09-30	USA	0000-00-00	
0035NF2008/EP	2010-10-11	EP	0000-00-00	
0035NF2008/IN	2008-03-31	IN	0000-00-00	

Technology transferred

- Transferred technology of the kit for isolation of RNA to Sanmar Group (Bangalore Genei, India, Now a part of Merck), Chennai, India on 10th October, 2007 (As a member of research team from IHBT, Palampur, India).