BIODATA

1. **Name : Dr Dinesh Pandey**
2. **Designation :** Associate Professor
3. **Date of Birth** : 10-01-1973
4. **Department :** Department of Molecular Biology & Genetic Engineering
5. **Mailing Address (Indicate Telephone, Fax, E-mail, etc.)**

Dr Dinesh Pandey
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6. Educational Qualifications :

Degree/Certificate	Board/University	Subject	Division	Marks (%)	Year
BSc. Ag. & A.H.	G. B. Pant University of Ag. & Tech. Pantnagar	Agriculture and Animal Husbandry	First	81.6%	1994
MSc. Ag. Molecular Biology & Biotechnology	G. B. Pant University of Ag. & Tech. Pantnagar	Molecular Biology & Biotechnology	First	81.06%	1996
Ph.D. Molecular Biology&Biotechnology	G. B. Pant University of Ag. & Tech. Pantnagar	Molecular Biology & Biotechnology	First	86.3 %	2004

7. Career

Teaching personnel, Department of MBGE, GBPUAT Pantnagar (Feb 2004-June 2006)
Assistant Professor, Department of MBGE, GBPUAT Pantnagar (Aug 2006- Aug 2018)
Associate Professor. Department of MBGE, GBPUAT Pantnagar (Aug 2018- present)

8. Awards and Honours

1. Awarded **Dr S. Radhakrishnan University Best teacher award** in 2015 by GBPUAT, Pantnagar during University foundation week.
2. Awarded **Young scientist award** for the best paper entitled **"**Probing the involvement of hypersensitive response gene (s)during pathogenesis of Alternaria blight in Brassica juncea" at 4th Uttrakhand State Science and Technology Congress (USSTC-2009) held from Nov.10th -12th 2009.
3. Awarded **Fast track young scientist project** by DST in 2006.

9. Specialization

Biotic stress management and Nutritional quality improvement of crops

10. Teaching

Engaged in teaching various courses (Molecular Cell Biology, Concepts in Genomics and Proteomics, Transgenic technology, Introduction to Molecular Biology and Biotechnology, Molecular Diagnostics technology, Immunotechnology, Immunology & Molecular Diagnostics, Principles of Biotechnology, Advanced functional genomics and proteomics, Immunological applications in Biotechnology, Advamces in Genetic Engineering, Plant Genome Engineering, Techniques in Molecular Biology, Techniques in Cell Biology Techniques in Genetic Engineering, Microbial Technology, Biocomputing and System Biology, Regulations in Biotechnolgy) to students of MSc, B tech and Ph.D. degree programmes in Molecular Biology and Biotechnology.

11. Publications:

A) Research papers

1. **Dinesh Pandey**, Anil Kumar and G. K. Garg. 2001. Antagonism between *Alternaria brassicae* toxin and zeatin in cell culture of *Brassica juncea* (L.) czern and coss cv. Divya. *Physiology and Molecular Biology of Plants*, 7 (2):181-184.

2. Mihir K. Mandal, **Dinesh Pandey**, Shalini Purwar, U.S. Singh and Anil Kumar. 2006. Influence of jasmonic acid as potential activator of induced resistance against Karnal bunt in developing spikes of wheat. *Journal of Biosciences* 31(5):607-627.

3. Arpita Mishra, **Dinesh Pandey**, Anshita Goel, Anil Kumar (2010) Molecular Cloning and *In silico* Analysis of Functional Homologues of Hypersensitive Response Gene(s) Induced During Pathogenesis of *Alternaria* Blight in Two Genotypes of *Brassica*. *J. Proteomics Bioinform* 3: 244-248.

4. Arpita Mishra, **Dinesh Pandey**, Manoj Singh and Anil Kumar. 2011. Involvement of *hsr203J* like gene homologue, protease and protease inhibitors in triggering differential defense response against Alternaria blight in *Brassica Australasian Plant Pathology* (2011): 40 (5),461-470 .

5. P. Kannan, **Dinesh Pandey**, A.K.Gupta, H.Punetha, Gohar Taj and Anil Kumar. 2011. Expression analysis of MAP 2K 9 and MAP K 6 during pathogenesis of Alternaria blight in *Arabidopsis thaliana* ecotype *Columbia*. *Molecular Biology Reports*. 39,4, 4439-4444.

6. **Dinesh Pandey**, Anil Kumar, H. Punetha, K.C. Bansal and G.K. Garg. 2012. *Agrobacterium* mediated transformation of *Brassica juncea* with *Arabidopsis* annexin (*AnnAt1*) gene. Int. J.Agric. Env. Biotech. 5 (1) : 1-9.

7. Anil Kumar, **Dinesh Pandey**, Gohar Taj, K. C. Bansal and G. K. Garg. 2001. Perceptions about Apoptosis in fungal phytopathogenesis. *J. Pant Biol.* 28 (1): 1-12.

8. N. K. Sethy, **Dinesh Pandey**, U.S.Singh and Anil Kumar. 2003. Caspase-3 like protein in wheat-*Tilletia indica* dual culture system as potential biomarker for host resistance to Karnal bunt. *Indian Journal of* ***Biotechnology,*** 2, 596-602.

9. J.M.Seneviratne, Atul K. Gupta, **Dinesh Pandey,** Indu Sharma and Anil Kumar. 2009. Determination of Genetic divergence based on DNA markers amongst monosporidial strains derived from fungal isolates of Karnal bunt of wheat. *Plant Pathol. J.* 25 (4) : 303-316.

10. Gohar Taj, Leena Singh, **Dinesh Pandey**, Anil Kumar, K. C. Bansal and G. K. Garg (2007) Perturbation of signal transduction pathway to develop resistance against Alternaria blight in Brassica juncea (Indian Mustard). *Science Letters*, 4 (1) :61-71.

11. Shefali Dobhal, **Dinesh Pandey**, Anil Kumar and Sanjeev Agrawal.2010. Studies on plant regeneration and transformation efficiency of *Agrobacterium* mediated transformation using neomycin phosphotransferase II (*nptII*) and glucuronidase (GUS) as a reporter gene *African Journal of Biotechnology* 9(41), 6853-6859.

12. Sriparna Dutt, **Dinesh Pandey**, Anil Kumar. 2011. Jasmonate Signal Induced Expression of Cystatin Genes for Providing Resistance against Karnal Bunt in Wheat . *Plant Signaling & Behaviour*. 6 (6) 821 – 830.

13. Anshita Goel, Gohar Taj, **Dinesh Pandey**, Sanjay Gupta and Anil Kumar. 2011.Genome wide comparative *in silico* analysis of Calcium transporters of Rice and Sorghum. *Genomics Proteomics Bioinformatics*, 9 (4-5) : 138-150.

14. **Dinesh Pandey**, Anil Kumar, H. Punetha, K.C. Bansal and G.K. Garg. 2012. *Agrobacterium* mediated transformation of *Brassica juncea* with *Arabidopsis* annexin (*AnnAt1*) gene. *Int. J.Agric. Env. Biotech*. 5 (1) : 45-52

15. Marmath KK, Giri P, G, Sharma S, **Pandey D**, Kumar A. Induction of MAPK- 4 during zeatin- *Alternaria Brassicae* challenge in host, non-host and tolerant transgenic brassica against alternaria blight and *In-Silico* prediction of its upstream kinases. *J Nat Sc Biol Med* 2011;2:119.

16. K. Kumar Marmath, P. Giri, G. Taj, **D. Pandey** and A. Kumar. 2013. Effect of zeatin on the infection process and expression of MAPK-4 during pathogenesis of *Alternaria brassicae* in non-host and host *Brassica* plants. *African journal of Biotechnology*. 12(17), 2164-2174.

17. Gohar Taj, Sugandha Sharma, Priyanka Giri, **Dinesh Pandey**, Anil Kumar. 2013.*In silico* approaches for studying the MAP kinase signaling pathways involved in resistance against Alternaria blight of *Brassica*. In Stress signaling in plants : genomics and proteomics perspective, Volume I Sarwat, Maryam; Ahmad, Altaf; Abdin, MZ (Eds.), 233p.

18. Atul K. Gupta, G.K. Joshi, J.M.Senevirattne, **Dinesh Pandey** and Anil Kumar. 2013. Cloning, in silico characterization and induction of TiKpp2 MAP kinase in Tilletia indica under the influence of host factor(s) from wheat spikes. *Mol. Biol. Rep.* (doi:10.1007/s11033-013-2597-0)

19. S. Purwar, S. Sundaram, **D. Pandey** & A. Kumar (2013): Basal expression of abscisic acid inducing immunity against Karnal bunt of wheat, *Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology: Official Journal of the Societa Botanica Italiana,* DOI:10.1080/11263504.2013.793752.

20. Manoj Singh, Sadhna Singh, **Dinesh Pandey**, Pramesh Chandra Lakhera & Anil Kumar , Food and Agricultural Immunology (2014): Generation of diagnostic anti-teliospore antibodies for development of specific immunodiagnostic format for detection of Karnal bunt (Tilletia indica) of wheat, *Food and Agricultural Immunology*, DOI: 10.1080/09540105.2013.873020

21. G.S.Jeena, H.Punetha, O.Prakash, **Dinesh Pandey** and K.P.S. Kushwaha. 2013. Investigation on nutritional characterization and element profiling of some *Pleurotus* species (Dingri Mushroom). *Pantnagar Journal Of Research*. 11(3): 405-408.

22. Shefali Dobhal , V.K. Chaudhary, A. Singh, **Dinesh Pandey**, Anil Kumar and Sanjeev Agarwal. 2013. Expression of recombinant antibody (single chain antibody fragment) in transgenic plant Nicotiana tabacum cv. Xanthi. *Mol Biol Rep* (2013) 40:7027–7037

23. B. Kalyana Babu , **Dinesh Pandey** , P. K. Agrawal, Salej Sood and Anil Kumar. 2014. In-silico mining, type and frequency analysis of genic microsatellites of finger millet (Eleusine coracana (L.) Gaertn.): a comparative genomic analysis of NBS–LRR regions of fingermillet with rice. Mol Biol Rep: DOI 10.1007/s11033-014-3168-8.

24. Pathak RK, Taj G, **Pandey D**, Arora S, Kumar A. 2013.Modeling of the MAPK machinery activation in response to various abiotic and biotic stresses in plants by a system biology approach. Bioinformation; 9(9): 443-449.

25. Lalan Kumar, **Dinesh Pandey**, Sandeep Taumer, Priyanka Giri and Anil Kumar (2014) Plant Immunity: A New Paradigm Of Broad Spectrum Disease Resistance In Plants, IJAEB

26. B. Kalyana Babu, P.K. Agarwal **Dinesh Pandey**, Anil Kumar (2014) Comparative genomics and association mapping approaches for *opaque2* modifer genes in finger millet accessions using genic, gemomic and candidate gene based SSR markers. Molecular Breeding, DOI: 10.1007/s11032-014-0115-2.

27. B. Kalyana Babu, **Dinesh Pandey**, P.K. Agarwal, S. Sood, C. Chandrashekara, J.C. Bhatt and Anil Kumar (2014) Comparative genomics and association mapping approaches for blast resistant genes in finger millet accessions using genic and genomics SSRs. PLoS ONE 9(6): e99182. doi:10.1371/journal.pone.0099182

28. B. Kalyana Babu, **Dinesh Pandey**, P.K. Agarwal, J.P. Jaiswal, Anil Kumar(2014) Association mapping of important agro-morphological characters among the global collection of finger millet genotypes using SSR markers. Molecular Biology Reports , 41 : 5287-5297

29. Anil Kumar, Ajay Goyal, Anshita Goel & **Dinesh Pandey**.2014. Seed Pro-Nutra Care: A tool for characterization of seed storage proteins and database of bioactive peptides having potential health benefits. Bioinformation ,10(9): 592-594

30. S. Garg, **D. Pandey**, G. Taj, A. Goel, A. Kumar. 2014. TRIPATH: A Biological Genetic and Genomic Database of Three Economically Important Fungal Pathogen of Wheat–Rust: Smut: Bunt. Bioinformation 10 (7), 466.

31. B. K. Babu, P. K. Agrawal, **D. Pandey**, S. Sood, C. Chandrashekara and A. Kumar. 2014. Molecular analysis of world collection of Finger millet accessions for Blast disease resistance using functional SSR markers. SABRAO Journalof Breeding and Genetics. 46 (2) 202-216, 2014

32. A. Mishra, **D. Pandey** , H. Punetha , R. Prabhusankar , A. K. Gupta , G. Taj & A. Kumar.2015. Expression analysis of MAP K 4 and MAP K 6 during pathogenesis of Alternaria blight in susceptible and tolerant genotypes of *Brassica juncea*. Eur J Plant Pathol. 142 (3) : 633-643.

33. Subin Raj Cheri Kunnumal Rajendran, Yuan-Yeu Yau, **Dinesh Pandey**, and Anil Kumar. 2015. CRISPR-Cas9 Based Genome Engineering: Opportunities in Agri-Food-Nutrition and Healthcare. OMICS A Journal of Integrative Biology. 19 (5) :261-275.

34. Anil Kumar, Rajesh Kumar Pathak, Sanjay Mohan Gupta, Vikram Singh Gaur and **Dinesh Pandey**. 2015. System Biology for smart crops and Agricultural innovation : Filling the gaps between genotype and phenotype for complex traits linked with robust agricultural productivity and sustainability. OMICS : Journal of Integrative Biology , 19 (10) : 581-601.

35. H Punetha, **Dinesh Pandey**, Pooran Bhatt, Heena Sagar, B Rawat. 2015. Biochemical Investigation on Antioxidative and Antinutritional Characters of Yellow Seeded Brassica Genotypes for Quality Assessment. International Journal of Agriculture, Environment and Biotechnology. 8(2): 253-264

36. D. Jeena, M. Baunthiyal, **Dinesh Pandey** and A.K. Gupta. 2015. ATMPK4 and ATMPK6 Transcript and Protein Profiling in *Arabidopsis thaliana* Plants Challenged with Zeatin and *Alternaria brassicae*. Plant Pathology Journal 14 (3): 97-112.

37. Gohar Taj, P.D. Meena, Priyanka Giri, **Dinesh Pandey**, Arvind Kumar and Anil Kumar. 2015. Pathogenesis mechanisms employed by *Alternaria* species. *Journal of Oilseed Brassica,* 6 (2): 213-240.

38. **Pandey, D**, Rajendran, S.R.C.K., Gaur, M. and A. Kumar. 2016. Plant Defense Signalling and responses to necrotrophic fungal pathogens. J Plant Growth Regul. doi:10.1007/s00344-016-9600-7

39. Rakesh Mondal, **Dinesh Pandey**, Gohar Taj and Anil Kumar. 2016. Reciprocal relationship between expression of MAP Kinase 4 and MAP Kinase 6 during pathogenesis of *Alternaria* Blight in *Arabidopsis thaliana.*Biotech Today 6 (1) : 60-64.

40. Rajesh Kumar Pathak, Gohar Taj, **Dinesh Pandey**, Virendra Kumar Kasana, Mamta Baunthiyal and Anil Kumar.2016. Molecular modeling and docking studies of phytoalexin(s) with pathogenic protein(s) as molecular targets for designing the derivatives with anti-fungal action on *Alternaria* spp. of *Brassica*. Plant Omics Journal 9(3):172-182

41. Sood S, Kumar A, Kalyana Babu B, Gaur VS, **Pandey D**, Kant L and Pattnayak A (2016) Gene Discovery and Advances in Finger Millet [Eleusine coracana (L.) Gaertn.] Genomics—An Important Nutri-Cereal of Future. Front. Plant Sci. 7:1634. doi: 10.3389/fpls.2016.01634

42. Anil Kumar Apoorv Tiwari Rajesh Kumar Pathak Gohar Taj A.K. Tewari **Dinesh Pandey** B.R. Singh Sandeep Arora and N.K. Singh. 2017. Addressing the complexity of Stress Biology through Hi-throughput Omics Data Analysis using Bioinformatics Tools: A National Bioinformatics Workshop Report. International Journal of Computational Bioinformatics and In Silico Modeling 6, 1 : 906-910

43. Kumar A, Pandey V, Singh M, **Pandey D**, Saharan MS, Marla SS (2017) Draft genome sequence of Karnal bunt pathogen (*Tilletia indica*) of wheat provides insights into the pathogenic mechanisms of quarantined fungus. PLoS ONE 12(2): e0171323. doi:10.1371/journal.pone.0171323

44. Pathak RK, Baunthiyal M, Shukla R, **Pandey D**, Taj G and Kumar A (2017) *In Silico* Identification of Mimicking Molecules as Defense Inducers Triggering Jasmonic Acid Mediated Immunity against Alternaria Blight Disease in *Brassica* Species. **Front. Plant Sci**. 8:609.

45. Kumar, L., **Pandey, D.,** & Kumar, A. (2017). Isolation, characterization and expression analysis of a nutritionally enhanced α-prolamin gene and protein during developing spikes of finger millet (Eleusine coracana). *Seed Science Research,* 1-11. doi:10.1017/S096025851700023X

46. Snigdha Tiwari, **Dinesh Pandey**, Manu Gaur and Anil Kumar. 2017. Effect of Methyl Jasmonate on Disease Severity and Expression of Plant Defensin Gene during *Alternaria brassicae* Infection in *Arabidopsis*. *Int.J.Curr.Microbiol.App.Sci 6*(7): 857-865

47. **Dinesh Pandey**, H Punetha, Anil Kumar. 2017. Annexin Signaling in Plants. **Biotech Today**, 7(1) : 52-57.

48. Anoop Singh, Mridula Sharma, Shiv Prasad, Yaqoob Bhat, Anil Kumar, **Dinesh Pandey**, SK Shukla. 2017. Effect of Butylated Hydroxytoluene on Acrosome Integrity and Viability of Crossbred Bull Spermatozoa. **International journal of Livestock Research.** 7(7) : 82-91

49. Pandey V, Singh M, **Pandey D**, Marla S, Kumar A. 2018. Secretome Analysis Identifies Potential Pathogenicity/Virulence Factors of Tilletia indica, a Quarantined Fungal Pathogen Inciting Karnal Bunt Disease in Wheat. **Proteomics** 18(8):e1700473. https://doi.org/10.1002/pmic.201700473.

50. Pandey V, Singh M, **Pandey D**, Kumar A. 2018. Integrated proteomics, genomics, metabolomics approaches reveal oxalic acid as pathogenicity factor in Tilletia indica inciting Karnal bunt disease of wheat. **Scientific Reports** 8(1):7826. https://doi:10.1038/s41598-018-26257-z.

51. Manu Gaur, Apoorv Tiwari, Ravendra P. Chauhan, **Dinesh Pandey** and Anil Kumar.2018. Molecular modeling, docking and protein-protein interaction analysis of MAPK signalling cascade involved in Camalexin biosynthesis in *Brassica rapa* . **Bioinformation** 14(4): 145

52. Pathak, R.K., Baunthiyal, M. **Dinesh Pandey** and Kumar A. 2018. Augmentation of crop productivity through interventions of omics technologies in India: challenges and opportunities. **3 Biotech** 8:454, https://doi.org/10.1007/s13205-018-1473-y

53. VS Gaur, S Kumar, L: Gupta, JP Jaiswal, **Dinesh Pandey**, A Kumar.2018. Identification and characterization of finger millet OPAQUE2 transcription factor gene under different nitrogen inputs for understanding their role during accumulation of prolamin seed storage protein. **3Biotech**. 8(3): 163.

54. Pandey, V., Gupta, A.K., Singh, M. **Dinesh Pandey** and Anil Kumar. 2019. Complementary Proteomics, Genomics approaches identifies potential pathogenicity/virulence factors in *Tilletia indica* induced under the influence of host factor. *Sci Rep* **9,** 553 doi:10.1038/s41598-018-37810-1.

55. Rini Joshi, Meenu Paul, Anil Kumar and **Dinesh Pandey**. 2019. Role of calreticulin in biotic and abiotic stress signalling and tolerance mechanisms in plants. Gene. 714 : 14404. https://doi.org/10.1016/j.gene.2019.144004

56. Jyoti Kumari, H.Punetha, Gohar Taj, A.K. Tewari and **Dinesh Pandey**.2018. Probing the involvement of protease and protease inhibitors during disease progression of Alternaria Blight of *Brassica* . Biotech Today 8 (2) : 75-79.

57. H.Punetha, Neha Sajwan and **Dinesh Pandey**. 2018. Phytochemical evaluation and assessment of potential nutrients from defatted meal of promising genotypes of *Brassica juncea* (Indian mustard). Biotech Today 8 (2) : 33-36.

58. H.Punetha, Syed Saif N and Dinesh Pandey. 2019. Glucosinolates in oilseed *Brassica*: Neutraceuticals with tremendous Health Benefits. Biotech Today 9(2) 26-32.
59. Ajay K Chandra, **Dinesh Pandey**, Apporv Tiwari,Divya Sharma, Aparna Agarwal, Salej Sood and Anil Kumar. 2020. An Omics Study of Iron and Zinc Homeostasis in Finger Millet: Biofortified Foods for Micronutrient Deficiency in an Era of Climate Change?. *OMICS A journal of Integrative Biology.* 24 (12) :688-705 (NAAS : 8.51) (IF 3.37)

60. Kavita Gururani, , Anil Kumar, , Apporv Tiwari, Aparna Agarwal, Supriya Gupta and **Dinesh Pandey**. 2020. Transcriptome wide identification and characterization of regulatory genes involved in EAA metabolism and validation through expression analysis in different developmental stages of finger millet spikes. *3 Biotech* 10, 347. (N-7.8) (IF-2.40)

61. Rajesh K. Pathak, Mamta Baunthiyal, **Dinesh Pandey** and Anil Kumar. 2020. Computational analysis of microarray data of *Arabidopsis thaliana* challenged with *Alternaria brassicicola* for identification of key genes in *Brassica*. *Journal of Genetic Engineering and Biotechnology*. 18 (1) :1-20.

62. Rajeev Kumar, H.Punetha and **Dinesh Pandey**. 2020. Polymerase chain reaction (PCR) based cloning of Mitogen activated protein kinase (MAPK3) in expression vector for isolation and purification of MAPK3 protein. *Biotech Today* 10(1) : 7-11.

63. . Ajay Kumar Chandra, **Dinesh Pandey**, Apoorv Tiwari, Kavita Gururani, Aparna Agarwal, Anupam Dhasmana, Anil Kumar. 2021.Metal based nanoparticles trigger the differential expression of key regulatory genes which regulate iron and zinc homeostasis mechanism in finger millet. Journal of Cereal Science (100)103235 p (Impact factor : 3.61)

64. Sneha Adhikari, Anjali Joshi,Amarjeet Kumar, N.K.Singh, J.P.Jaiswal, A.S.Jeena, R.P.Singh and **Dinesh Pandey**. 2022. Identification of QTL for Banded leaf and sheath blight in Teosinite derived maize population. Agriculture Research. 11 (2), 155-163.

65. V Sharma, AK Verma, P Sharma, **Dinesh Pandey**, M Sharma. 2022. Differential proteomic profile of X-and Y-sorted Sahiwal bull semen. Research in Veterinary Science 144, 181-189.

66. C Bahuguna, D Arya, **Dinesh Pandey**, AK Verma, M Sharma. 2022. Protein profile of serum and urine during early pregnancy in sahiwal cows. Indian Journal of Animal Sciences 92 (5), 570-57.

67. VP Kapale, C Patel, AK Verma, RM Srivastava, **Dinesh Pandey**, MK Nautiyal, Sanjeev Agarwal. 2022. Effect of seed priming with salicylic acid and methyl jasmonate on germination and primary root length of cowpea genotypes. The Pharma Innovation Journal SP-11(6): 2085-2088.

68. Rashmi Chauhan, Sharat Prabhakaran, Kamal Aswal, **Dinesh Pandey**. 2023. Molecular docking studies for Evaluation of Amaranth grain squalene for Treatment of Melanoma Skin Cancer in Human Beings. Letters in Organic Chemistry. 20 (9) : 829-836.

69. Ajay K. Chandra, **Dinesh Pandey**, S.Sood, Dinesh. C. Joshi, Apoorv Tewari, Divya Sharma, Kavita Gururani and Anil Kumar. 2024. Uncovering the genomic regions underlying grain iron and zinc content using genome-wide association mapping in finger millet. *3 Biotech* **14**, 47-53.

70. **Dinesh Pandey**, Manisha Bharti, Anubhav Rana, Sharat Prabhakaran and Rashmi Chauhan. 2024. Molecular Docking of Phytomolecules of Grain Amaranth (*Amaranthus hypochondriacus*) with AKR1C3 Protein Involved in Prostate Cancer in Human Beings. Letters in Organic Chemistry. 21, 677-686.3

71. Monika Bisht, Shivanshu Garg, Puja Nain, H Punetha, Dinesh Pandey.2024. International Journal of Advanced Biochemistry Research. 8 (5) 45-51.

72. Rashmi Chauhan, Sharat Prabhakaran, Gohar Taj , S.K. Guru and Dinesh Pandey. 2024. Structural and Functional Characterization of an Amino acid Transporter in *Amaranthus hypochondriacus* using Bioinformatics Tools. Journal of Advances in Biology & Biotechnology. 27 (8) 280-288.

73. Verma Rajshree, KPS Kushwaha, Satya Kumar, Shilpi Rawat, Renu Pandey, Dinesh Pandey, Bishal Roy. Ashish Bisht. 2024. Emerging threat to Indian agriculture: *Fusarium incarnatum-equiseti* species complex as a novel pathogen imperiling bajra, cowpea, finger millet, green gram, moth bean, and soybean crops. Crop Protection. 182, 106741. (NAAS-**8.5**)

74. Kamal Singh Aswal,Sharat Prabhakaran ,Rashmi Chauhan ,Dinesh Joshi ,Roopali Sharma and **Dinesh Pandey**. 2025. Genome-wide identification, in-silico analysis and expression profiling of regulatory genes involved in essential amino acid biosynthesis during different stages of germination in grain amaranth (*Amaranthus*

hypochondriacus). *Genetic Resources Crop Evolution* .) https://doi.org/10.1007/s10722-025-02373-4 (NAAS-**8.0**

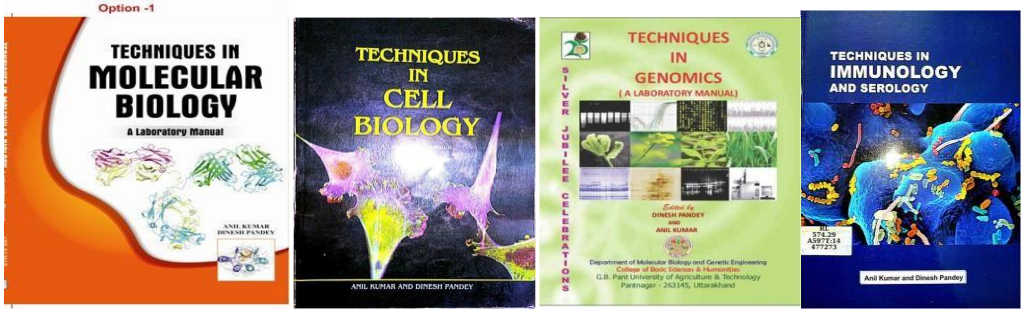
B) Patents :

No.	Patent Name	Patent Granted/Filed	Author(s)
1.	A method and a kit for eluting one or more proteins	Application no.3496 DEL/2015A (Patent granted in **2020**)	Anil Kumar, Netrapal Sharma, Atul Kumar Gupta, Manoj Singh and **Dinesh Pandey**
2.	Finger millet prolamin based nano-delivery vehicle for lipophilic substances-Beta carotene	(Patent published in **2022)**	Rajendran Subin RCK, **Dinesh Pandey**, Manoj Singh, Mamta Metwal and Anil Kumar
3.	Promoter of alpha prolamin gene from Finger millet for regulation of seed storage protein gene	(Patent filed in **2019**)	**Dinesh Pandey**, Lalan Kumar, Vikram S. Gaur, S.M. Gupta, Supriya Gupta, and Anil Kumar

C) Books and Laboratory Manuals

a) Laboratory manuals :

1. Anil Kumar & **Dinesh Pandey** (2014) Techniques in Molecular Biology, Panima Publishing House, New Delhi. (for the course (BMB545) Techniques in Molecular Biology)
2. Anil Kumar & **Dinesh Pandey** (2014) Techniques in Cell Biology, Panima Publishing House, New Delhi (for the course (BMB535) Techniques in Cell Biology)
3. **Dinesh Pandey** and Anil Kumar (2012). A Laboratory Manual on "Techniques in Genomics". Vikrant publishers, Haldwani. (useful for (BMB545) Techniques in Molecular Biology)
4. Anil Kumar & **Dinesh Pandey** (2020). Techniques in Immunology and Serology, Panima Publishing House, New Delhi. (useful for (BMB310) Immunotechnology)



b) Books

- Critical control points in Genetically modified Seed Production (Ed. Anil Kumar, Sandeep Arora, Dinesh Yadav, Sonu Ambwani and Dinesh Pandey) 2008.

- A compendium on " Application of Genomics in Crop Improvement" (Ed. Dr. Sandeep Arora, Dr. Anil Kumar; Co-Ed. Dr. Dinesh Pandey, Dr. Gohar Taj & Dr. Sonu Ambwani) 2012.

D) Popular articles and Book chapters

a) Book chapters :

1. **Dinesh Pandey**, Apoorv Tiwari, H.Punetha and A.Kumar. 2024. Zinc (Zn): A prime and High Yield Resource. *In Biofortification for Nutrient-Rich Crops (*pp 61-75) CRC Press.

2. Rajesh Kumar Pathak, Dev Bukhsh Singh, **Dinesh Pandey**, Vikram Singh Gaur, Anil Kumar.2022. Finger Millet Transcriptome Analysis Using High Throughput Sequencing Technologies. In The Finger millet Genome (Editors Anil Kumar, S.Sood, B.K. Babu, S M Gupta and B.D. Rao). Springer publishers pp. 123-133.
3. Rajesh Kumar Pathak, Dev Baksh Singh, Himanshu Sharma, **Dinesh Pandey**, Seema Dwivedi. **2021**. Calcium uptake and translocation in plants In ***Calcium transport elements in plants*** (Editor : S.K. Upadhyay), Elsevier Academic press, pp 373-386
4. Anil Kumar, Kavita Gururani, Supriya Gupta, Apoorv Tiwari, M.K.Tripathi and **Dinesh Pandey**. **2021.** Seed storage proteins and Amino acid synthetic pathways and their regulation in cereals with reference to Biologically and Nutritionally important proteins and bioactive peptides in Millets. In *Millets and Millet Technology* (Editors : Anil Kumar, M.K.Tripathi, Dinesh Joshi and Vishnu Kumar). Springer publishers pp. 161-189
5. Anil Kumar, Dinesh Yadav, Sneh Narwal and **Dinesh Pandey (2007)** ***Transgenic Plants: Experiences and Challenges***, *In* "*Cartagena Protocol on Biosafety Decisions to Diagnostics*" (***Editors: Gurinder Jit Randhawa, Shashi Bhalla, V. Celia Chalam & S. K Sharma***) , National Bureau of Plant Genetic Resources, New Delhi, 2007, **pp. 23-35**.
6. Anil Kumar, **Dinesh Pandey**, Sonu Ambwani and Dinesh Yadav (**2007**) *Molecular strategies for detection of insertion of gene in transgenic plants* **In "Cartagena Protocol on Biosafety Decisions to Diagnostics**" (Editors: Gurinder Jit Randhawa, Shashi Bhalla, V. Celia Chalam & S. K Sharma) , National Bureau of Plant Genetic Resources, New Delhi, 2007, **pp. 82-102**
7. Anil Kumar, Soma S. Marla, **Dinesh Pandey** and B.R.K. Gupta (2008) Nano-bio-information technology: The Horizon of a New Concept in Life Science Research. In Proceeding of XIV Annual Convention of Indian Society of Veterinary Immunology and Biotechnology, Feb 27-29, 2008.

8. **Dinesh Pandey** and Anil Kumar. 2009. Padap harmono evam jaiv rasayano dwara ekikrikat padap suraksha prabandhan. In Padap vridhi niyantrak kya kyun aur kaise (Edited by Anil Kumar, Ranjan Srivastava and B.R. Singh). Vikrant publishers, Haldwani

b) Popular articles

1. **Dinesh Pandey**, H.Punetha and Anil Kumar. 2023. Millet technology: Revolutionizing agriculture and nutrition. Agri Life 09 (1) : 27-31

2. **Dinesh Pandey** and Kavita Gururani. 2018. Fingermillet : Nutritional Importance of diversely evolved crop and it's health benefits. Indian Farmer's Digest 51 (06) : 23-25.

3. **Dinesh Pandey**, Aparna Agarwal and Anil Kumar. 2019. Increase in farmer's income through value addition of agricultural produce.Agriculture Life. 1(2): 37-40

4. **Dinesh Pandey**, H.Punetha and Anil Kumar. 2013. Nanoprodigyiki ki krishi me upyogita. Kisan Bharati. Vol.40 (3), p 1-5.

5. Lalan Kumar, Snigdha Tewari and **Dinesh Pandey**.2013. Glucosinolate for Bracicacee : a boon for cancer. Indian Farmers' Digest. Vol 46 (6) p.43.

6. H. Punetha and **Dinesh Pandey.**2017. Glucosinolates: health promoting phytochemicals from *Brassica*. Indian Farmer's Digest, 50 (06) : 25-26.

12.No. of Research Projects handled

As Principal investigator :

1. De novo genome sequencing of Karnal bunt pathogen (Tilletia indica)Pathogen of Wheat : Chracterization of pathogenecity genes/proteins for development of Diagnostics

   Duration : March 2017 up to March 2020 (likely extension up to August 2021)

   Funding agency : DBT,India

   Financial Outlay : 64 lakhs

2. North Western Himalayan Bioinformatics Grid

   Duration : March 2019- March 2022

   Funding agency : DBT,India

   Financial Outlay : 99 lakhs

3. Isolation and Studies on *Brassica* calreticulin to reveal it's particular domain possesing antioxidative role and exploration of it's proper mechanism in mitigating

the oxidative stress as **Mentorship of Young scientist** , Dr Rini Joshi, WOSA , DST young scientist)

Duration : March 2018 up to October 2021

Funding agency : DST, Government of India

Financial Outlay : 32 lakhs

4. Identification of potential target molecules of Alternaria toxin(s) in signal transduction pathways involved during pathogenesis of Alternaria blight of Brassica.

   Duration : June 2006- March 2009

   Funding agency : DST,India

   Financial Outlay : 12 lakhs

5. Cloning and expression of MAP kinases of *Arabidopsis thaliana* for identification of corresponding orthologues in Brassica

   Duration : Dec 2006- March 2012

   Funding agency : DBT,India (under Program mode support in Ag. Biotechnology)

   Financial Outlay : 25 lakhs

As Co-Principal Investigator :

1. Refinement and validation of immunoassays for detection and determination of fungal entities for seed certification and screening resistance against Karnal bunt (*Tilletia indica*) in wheat.

   Duration : March 2013- March 2016
   Funding agency : DBT, New Delhi
   Financial Outlay : 66 lakhs.

2. Metabolic engineering of plants for development of stress tolerance phenotype of *D. Radiodurans*

   Duration : March 2018 up to March 2021

   Funding agency : Government of India, DAE (BRNS), BARC, Mumbai

   Financial Outlay : 64 lakhs

13.Students guided at master/doctoral degree level-

MSc. Students guided : 26

Ph.D. Students guided : 05

Ph.D. students under guidance :02

14.Organization of training workshops/Conferences

1. **Course Organizer** for organizing Twenty one days national training workshop on "Application of Genomics in Crop improvement"at Pantnagar supported by DBT, New Delhi, during 27th Dec., 2012 to 16th Jan 2013.

2. **Co-Organizing Secretary** for organizing a three day National Conference on "The Science of Omics for Agricultural Productivity: Future Perspectives", in association with the *Society of Plant Biochemistry and Biotechnology*, New Delhi from March 4th-6th, 2014.

3. **Co-organizer** of National training workshop on " Recent advances of Proteomics and Chemo-Informatics in Agriculture, Veterinary and Biomedical applications" organized from 11th October 2017 to 14th October 2017 at Department of MBGE, CBS&H, GBPUAT Pantnagar.

15. Extension of Biotech Education

- Delivered **14 radio talks** in Hindi on various topics of Biotechnology viz. LMO, Gene, Genomics and Genetic Engineering, Krishi jaiv prodyogiki aur transgenic paundhe, Biotech rupantrit khadya aur suraksha, Biotech khadyon ka nampatran, Biotech paundhe aur paryavan, Biotech se utpann utpad, Bt keet pratirodhkta, Biotech vilmbit maturity, Shaknasi pratirodhkta, Jaiv Suraksha mei kshyamta nirmaan, Jaiv surksha per Cartagena protocol, Bharat mei Jaiv surksha star aur sarondhan suvidhayen,Anuvanshik rupantrit phaslon mei jaiv suraksha kriyanavyan vidhiyan at Radio Janvani, Pantnagar in **2016.**
- Delivered two lectures on the topics " Advances in genetic manipulation for abiotic stresses using biotechnology tools" and " Gene isolation strategies with special refernce to stress responsive genes" in a summer school on " Classical, molecular and recombinant DNA techniques for Stress resistance breeding" w.e.f. September 11, **2015** to October 01, 2015 organized by Department of Genetics and Plant Breeding, GBPUAT, Pantnagar
- Delivered a lecture on the topic " Exposure on gene cloning as an approach to improve climatic resiliency of crop plants" in a summer school on " Improving resiliency of crop varieties through novel and integrative breeding approaches" w.e.f. September 08 to September 28, **2016** organized by Department of Genetics and Plant Breeding, GBPUAT, Pantnagar.

- Delivered a lecture on the topic "Molecular methods of Detection of Soil borne plant pathogens" in 21 days training on "Crop Diseases and their management through soil health" w.e.f. September 05 to September 25, **2019** organized by CAFT in Plant Pathology, GBPUAT, Pantnagar.

- Delivered a lecture on the topic "Genetic and Genome Engineering for sustainable crop disease management" in 21 days training on " Pre and Post harvest disease management of Horticultural Crops through Improved technologies and Value addition to enhance farmers' income " w.e.f. February 05 to February 25, **2020** organized by Department of Plant Pathology, GBPUAT, Pantnagar.

- Delivered an invited lecture on " Nutritional and growth regulators requirement in Plant tissue culture" in online training entitled "Role of Plant Tissue Culture to Enhances the

Entrepreneurial Skill among rural/ semi Urban Youth "organized by Banda university of Agriculture and Technology, Banda. from 02.08.2021.to 8.08.2021

16. Professional Achievements and Awards:

(A) Professional achievement

Professional training attended : 15

Seminars/ Symposia/ Workshop Attended: 25

Reviewer for scientific journals: 10

Course Organizer of National training workshop : 01

Co- Organizer of National training workshop : 01

Organizing Secretory of National Conference : 01

Life membership of Professional Societies: 02

Number of Radio talks delivered : 16

Lectures delivered as resource person : 10

(B) Awards :

2015 : Dr S. Radhakrishnan University Best teacher award by GBPUAT, Pantnagar

2009: Young scientist award by Uttarakhand council of Science and Technology, Dehradun

2006 : DST young scientist award

17. Awards and Honours to my students

1) **Nishika Darkal Id** No.56536 received **Dr Deep C. Kaushal Memorial** awardin 2024 for best MSc Ag. Biotechnology student to for the academic year 2020-21.

2) **Sharat Prabhakaran,** Rashmi Chauhan, Dinesh C Joshi , Sundip Kumar, J.P.Jaiswal and Dinesh Pandey (2024). Genome wide association analysis to identify QTLs governing mineral content (Fe, Zn, Ca and Mg) accumulation in grain amaranth (*Amaranthus hypochondriacus*) using Genotyping by Sequencing. 4th Biotechnology Conclave held on 3^{td}-5th February, 2025, Uttarakhand Council for Biotechnology, Biotech Bhavan, Haldi, U.S. Nagar, Uttarakhand. pp. 66. **(Best oral presentation award)**

3) **Sharat Prabhakaran,** Rashmi Chauhan, Kamal Singh Aswal, Dinesh C Joshi , Sundip Kumar, and Dinesh Pandey (2023). Genome wide association studies for identification of QTLs responsible for accumulation of iron and zinc content in grain amaranth

(*Amaranthus hypochondriacus*) using Genotyping by Sequencing. 2nd Biotechnology Conclave held on 15th-16th March, 2023, Uttarakhand Council for Biotechnology, Biotech Bhavan, Haldi, U.S. Nagar, Uttarakhand. pp. 66. **(Young Scientist Award)**

4) **Sharat Prabhakaran ,** Rashmi Chauhan , Kamal Singh Aswal , Dinesh C Joshi , Sundip Kumar, and Dinesh Pandey (2023). Molecular genetic diversity, population structure and relationships in a collection of *Amaranthus hypochondriacus* accessions of diverse origins using Genotyping by Sequencing. International Conference on 'Climate Resilient Agriculture for Food Security and Sustainability' held on 17th - 19th February, 2023, Ch. Charan Singh Haryana Agriculture University, Hisar, Haryana, India. pp. 655. (**Best Poster Presentation- Second**)
5) **Rini Joshi**, Milan Kumar Lokshman, Nishika Darkal, B. C. Joshi, Dinesh Pandey (2023) Calreticulin enhances the ability to combat biotic stress in *Brassica* plants exposed to Alternaria infection. 2nd Biotechnology Conclave held on 15th-16th March, 2023, Uttarakhand Council for Biotechnology, Biotech Bhavan, Haldi, U.S. Nagar, Uttarakhand. pp. 34. **(Young Scientist Award)**
6) **Ajay Chandra,** Apoorv Tewari, Divya Sharma, Kavita Gururani , Salej Sood, and Dinesh Pandey (2019). Identification and Chracterization of genes involved in metabolic network of iron and zinc homeostasis through Genome transcriptome transition approach of Finger millet. International Conference on Global perspective in agricultural and applied sciences for food and environmental security (GAAFES) held on 1stp-2nd December, 2019, Agricultural and environmental technology developmental society (AETDS), Kumaun University, Nainital, Uttarakhand, India pp. 343. **(Young Scientist Associate Award)**
7) **Rini Joshi,** Apoorv Tewari and Dinesh Pandey (2019). Site directed mutagenesis of calreticulin transacylase : Demonstration of Lys-207as the possible active site residue. International Conference on Global perspective in agricultural and applied sciences for food and environmental security (GAAFES) held on 1st-2nd December, 2019, Agricultural and environmental technology developmental society (AETDS), Kumaun University, Nainital, Uttarakhand, India pp. 321. **(Young women Scientist Award)**

Google Scholar Link

https:// scholar.google.co.in/citations?user=AZQ1wosAAAAJ&hl=en

Research Gate account Link

https://www.researchgate.net/profile/Dinesh-Pandey-2

ORCID Id.

https://orcid.org/0009-0009-8284-260X