

**Pankaj Kumar**

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### CURRICULUM VITAE

POSITIONS	<b>Professor (Biochemistry &amp; Physiology) &amp; Head, Bioinformatics, College of Biotechnology OSD, College of Sugarcane Science and Technology Associate Dean Student Welfare</b>
Date of Birth	16.12.1975
Family status	Married
Father's Name	Late Shri S. Lal

### EDUCATIONAL QUALIFICATION

	Subjects		Year of Passing	Class ranks/ distinctions	University or Institutions
	Major	Minor			
<b>B.Sc. (Ag.)</b>	Agriculture	Horticulture	1996	1 <sup>st</sup> 71.6%	AAI Allahabad
<b>M. Sc. (Ag.)</b>	Crop Physiology	Biochemistry, Tissue Culture, Agronomy	1998	1 <sup>st</sup> 9.18/10	UAS, Dharwad
<b>Ph.D.</b>	Plant Physiology	Biochemistry, GPB, Agronomy	2000	- 3.38/4	IARI, New Delhi

### AWARDS & HONOURS

#### National

- Awarded **Junior Research Fellowship**, ICAR, New Delhi for M. Sc. (Ag.) Plant Physiology, (1996).
- Awarded **Senior Research Fellowship**, IARI, New Delhi for Ph.D. Plant Physiology, (1998).
- **National Eligibility Test** (Plant Physiology), ICAR, New Delhi, (1999).
- Elected **Vice President**, Indian Society for Plant Physiology (2012). Chaired Annual General Body (AGM) at ANGRAU, Hyderabad, December 14, 2012.
- Elected Zonal Secretary (North), Indian Society for Plant Physiology (2013-15).

## International

- Awarded **SERS Excellence in Teaching Award-2017** in the field of Biotechnology (iCiAsT-2017), NTU, Singapore.
- Awarded **Innovative Scientist of the Year Award-2016** in field of Plant physiology & Biochemistry (iCiAsT-2016), KU, Bangkok, Thailand
- Awarded **ICGEB Fellowship**, ICGEB-Course: “Plant-beneficial function prediction of *Bacillus subtilis* species through NGS technology” at Sfax, Tunisia, 6 – 13 November 2022.
- **Awarded ICGEB Fellowship**, ICGEB-Course: “International workshop on molecular diagnostics in microbiology and diseases” at Interdisciplinary Science and Education, Vietnam, 11 – 14 December 2023.
- **Awarded ICGEB Fellowship**, ICGEB course: Advancing Next Generation Sequencing in Southasian region a residential workshop for international and local attendees at The International Centre for Genetic Engineering and Biotechnology (ICGEB) and Sri Lanka Institute of Biotechnology (SLIBTEC), 06 to 10 May 2024.

## MEMBERSHIP OF PROFESSIONAL SOCIETIES

- Life member “**Indian Society for Plant Physiology**” Division of Plant Physiology, IARI, New Delhi.
- Life member “**The Plant Physiology Club**” (APAU) Agric. College, Bapatla- 522 101, Andhra Pradesh
- Life member “**Indian Society of Agricultural Sciences**” Division of Agronomy, IARI, New Delhi.
- Life member “**Bhartiya Krishi Anusandhan Samiti**” Karnal Haryana.
- Life member of “**Society for Plant Research**” Meerut India.

## POSITIONS AND EMPLOYMENT

Designation	Pay scale	Nature of work	Organization/ Institution & Place of posting	Period	Duration (Years, month, day)
Assistant Manager (Quality Control)	8,600-25014600	Scientific Management of Food Grains	Food Corporation of India	15.01.2001 to 06.03.2003	2 yrs 2 months
Junior Scientist/JRO (Plant Physiology)	8,000-27513500	Teaching/ Research/ Extension	Govind Vallabh Pant University of Agriculture & Technology, Pant Nagar, US Nagar (Uttaranchal)	07.03.2003 to 31.05.2007	4 yrs 3 months
Associate Professor (Biochemistry & Physiology)	12,000-42018600	Teaching/ Research/ Extension	College of Biotechnology, Sardar Vallabhbhai Patel University of Agri. & Tech., Meerut	01.06.2007 to 31.05.2013	6 yrs
Professor (Biochemistry & Physiology)	PB 14	Teaching/ Research/ Extension	College of Biotechnology, Sardar Vallabhbhai	01.06.2013 to till	more than 10 yrs

			Patel University of Agri. & Tech., Meerut		
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## RESEARCH SUPPORT

Project	Agency	Association
Study of immune Response Gene in <i>Holotrichia serrata</i> (Fabricius) against Entomopathogenic Fungi by High- Throughput Sequencing	CST, UP 16.86 lacs	Principal Investigator
Molecular, biochemical and morphological characterization of lentil germplasm/ cultivars for yield improvement under limited water conditions	CST, UP 6.96 lacs	Principal Investigator
Development & adoption of onion storage structures in western Uttar Pradesh	UPCAR, UP 80 lacs/yr	Co- Principal Investigator
Centre of Excellence in Agri Biotechnology	CST, UP 100.02 lacs	Principal Coordinator
Bioinformatics Infrastructure Facility (BIF)	40 lacs	Coordinator Nov. 2022 till date
Determination of Pesticide Residues in Major Vegetable Crops of Western Uttar Pradesh using Liquid /Gas Chromatography Mass Spectrometry (LC-MSMS/ GC- MSMS) & Their Health Risk Assessment	11.94 lacs CST, UP	Co- Principal Investigator

## PATENT

- Malyaj R Prajapati, **Pankaj Kumar**, Jitender Singh, Ravi Shanker, Reetesh Pratap Singh, Satya Prakash and Rajendra Singh (2024). *Metarhizium anisopliae*-based biopesticidal composition for targeted control of *Hellula undalis* in cabbage crops. **Indian patent Application number** 202411003667, Publication 18/01/2024.
- **Pankaj Kumar**, Malyaj R Prajapati, Jitender Singh, Ravi Shanker, Mahesh Kumar Bharti, Rajendra Singh and Ravindra Kumar (2024). Molecular dynamics for sustainable pest management. **Indian patent Application number** 202411000806, Publication 04/01/2024.
- Malyaj R Prajapati, Pankaj **Kumar**, Rajendra Singh, Jitender Singh, Mahesh Kumar Bharti and L. K. Gangwar (2023). Novel *Metarhizium Anisopliae* strain (SVPUAT) for biological control of *Helicoverpa armigera* infestation in crops. **Indian patent Application number** 202311052033, Publication 02/08/2023.
- Malyaj R Prajapati, **Pankaj Kumar**, Jitender Singh, L. K. Gangwar, Rajendra Singh and Mahesh Kumar Bharti (2023). Unlocking the Genetic Secrets of the Cabbage webworm, *Hellula undalis*: transcriptome sequencing, functional analysis, and pest management implications. Indian patent Application number 202311071155. Publication 18/10/2023.
- Malyaj R Prajapati, **Pankaj Kumar**, Jitender Singh, Mahesh Kumar Bharti, L. K. Gangwar and Rajendra Singh (2023). Comprehensive Transcriptomic-driven sustainable pest management for *Helicoverpa armigera*. **Indian patent Application number** 202311071154, Publication 18/10/2023.

## EDITORIAL ROLES

- Served as a reviewer for a manuscript titled “**Assessment of the responses of chickpea (*Cicer arietinum* L.) to the exogenous application of gibberellic acid and indole butyric acid at different crop development stages**” in the ARCC Journals, July 2023.

- Served as a reviewer for a manuscript in MDPI journal, February 2023.
- Served as a Guest Editor of special issue “**High- Throughput Sequencing in Virus Research**” in the MDPI, June 2023.
- Served as a reviewer for a manuscript titled “**Phytic Acid and Micronutrient Profiling of a Few Ethnic Rice Products of Assam, India**” in the ARCC Journals, June 2022.
- Served as a reviewer for a manuscript in MDPI journal, August 2022.
- Served as a reviewer for a manuscript in MDPI journal, July 2022
- Served as a reviewer for a manuscript in MDPI journal, June 2022
- Served as a reviewer for a manuscript in MDPI journal, May 2022.
- Served as a reviewer for a manuscript in MDPI journal, March 2022.
- Served as a reviewer for a manuscript titled “**Purification, characterization and bioefficacy of legume lectins against mustard aphid**” in the ARCC Journals, December 2020.
- Served as a reviewer for a manuscript titled “**Flavonoids: Biosynthesis, metabolism, mechanism of antioxidation and clinical implications**” in the ARCC Journals, May 2020.

## PUBLICATIONS

### Research article

- Chand, N., Dixit, R., **Kumar, P.**, Tyagi, K., Kapoor, N., Singh, N., Vikram, P., & Malik, S. (2024). Co-expression network analysis for identification of candidate genes regulating phosphorus use efficiency in wheat (*Triticum aestivum* L.). *Plant Science Today*. <https://doi.org/10.14719/pst.3328> (N.R:6.9/I.F.:0.5)
- Prajapati, M. R., Kumar, P., Singh, R. P., Shanker, R., Singh, J., Bharti, M. K., ... & Dixit, R. (2024). De novo transcriptome assembly, annotation and SSR mining data of *Hellula undalis* (Fabr.)(Lepidoptera: Pyralidae), the cabbage webworm. *Journal of Genetic Engineering and Biotechnology*, 22(3), 100393. (N.R:9.50/I.F.:3.6)
- Prajapati, M. R., Gupta, S., Singh, J., Kumar, P., & Baranwal, V. K. (2024). First report of cucumber mosaic virus (CMV) naturally infecting amaryllis (*Hippeastrum hybridum*) in India. *Journal of Plant Pathology*, 295-296. (N.R:8.2/I.F.:2.2)
- Neelesh Kapoor, Ankit Agrawal, Prafulla Kumar, Ravindra Kumar, Rakesh Sengar, Lokesh Gangwar, **Pankaj Kumar**, Rekha Dixit. (2024). Exploring the impact of biogenic zinc oxide nanoparticles derived from *Lantana camara* L. on alleviating heat stress in wheat. *Research Square*. DOI: [10.21203/rs.3.rs-4508592/v1](https://doi.org/10.21203/rs.3.rs-4508592/v1) (Under Review) (I.F.:3.0)
- Varsha Dharmesh, Mahesh Kumar Bharti, **Pankaj Kumar** and Jitender Singh. (2023). Identification, Characterization and gene expression of ZIP gene family in *Phaseolus vulgaris*. *Research Square*. DOI: <https://doi.org/10.21203/rs.3.rs-3062780/v1>
- M. R. Prajapati, **Pankaj Kumar**, Ravi Shanker., Reetesh Pratap Singh, Rajendra Singh, Mahesh Kumar Bharti, Jitender Singh., Neelesh Kapoor, L. K. Gangwar, S. S. Gaurav, Rekha Dixit, & Satya Prakash. (2023). De novo assembly and annotation of *Hellula undalis* (Fabr.) (Lepidoptera: Pyralidae) transcriptome. *Research Square*. DOI: <https://doi.org/10.21203/rs.3.rs-3136152/v1> (N.R:8.80/I.F.: 2.6)

- Prajapati, M. R., Singh, J., Kumar, P., & Dixit, R. (2023). De novo transcriptome analysis and identification of defensive genes in garlic (*Allium sativum* L.) using high-throughput sequencing. *Journal of Genetic Engineering and Biotechnology*, 21(1), 56. (N.R:9.50/I.F.:3.6)
- Malyaj R Prajapati, Ravi Shanker, Reetesh Pratap Singh, Rajendra Singh, Jitender Singh, **Pankaj Kumar**. (2023). Molecular Characterization and Virulence of *Beauveria* isolated from infected *Spodoptera frugiperda* in Maize fields of Western Uttar Pradesh, India. (*Egyptian Journal of Biological Pest Control*) (N.R:8.40/I.F.: 2.1)
- Malyaj R Prajapati, Jitender Singh, **Pankaj Kumar**, Ravindra Kumar, and V. K. Baranwal (2023). Identification of a novel member of the *alphaendornavirus* genus in *Plantago ovata* through transcriptome dataset mining. *South African Journal of Botany*. 157, 135-137. (N.R:9.10/I.F.: 2.7)
- Ravi Shanker, Malyaj R Prajapati, Reetesh Pratap Singh, Rajendra Singh, Jitender Singh, **Pankaj Kumar**. (2023). Isolation, molecular characterization of indigenous *Metarhizium anisopliae* (Metchnikoff) isolate, using ITS-5.8s rDNA region and its efficacy against the *Helicoverpa armigera* (Hubner) (Lepidoptera: Noctuidae). *Egyptian Journal of Biological Pest Control*. 33, 23 (N.R:8.40/I.F.: 2.1)
- Shruti, Anil Sirohi, **Pankaj Kumar**, Jitender Singh, Mukesh Kumar and U.P. Shahi. (2023). Optimizing agro-morphological traits of lentil genotypes in response to drought and salt stress. *The Pharma Innovation Journal*, 12(7), 750-753 (N.R:5.23)
- Ankit Agrawal, Neelesh Kapoor, Anil Sirohi, **Pankaj Kumar**, Rekha Dixit, Lokesh Kumar Gangwar, Prafulla Kumar. (2023). Green synthesis, optimization, and characterization of zinc oxide nanoparticle using *Lantana camara* L. leaf extract. *The Pharma Innovation Journal*. 12(8), 1843-1850 (N.R:5.23)
- Malyaj R Prajapati, Jitender Singh, **Pankaj Kumar**, and Virendra Kumar Baranwal. (2022). Genome sequence of a papaya ringspot virus from khejri (*Prosopis cineraria*) transcriptome from India. *Acta virologica*. 66, 374-377. (N.R:7.70/I.F.: 1.82)
- Prajapati, M. R., Singh, J., **Kumar, P.**, & Baranwal, V. K. (2023). First report of blackberry virus E (BVE) infecting garlic (*Allium sativum* L.) in India. *Journal of Plant Pathology*, 105(1), 353-354. (N.R:8.2/I.F.:2.2)
- Saxena, V., Bharti, M. K., **Kumar, P.**, Singh, J., & Patel, V. B. (2023). Effect of zinc uptake on alcohol dehydrogenase, protein and mineral contents of hydroponically grown chickpea (*Cicer arietinum*). *Journal of Plant Nutrition*, 46(6), 867-876. (N.R:8.10/I.F.:1.6)
- Malyaj R Prajapati, Aakansha Manav, Pankhuri Singhal, Venkidusamy K. Sidharthan, Ujjwal Sirohi, Mukesh Kumar, Mahesh Kumar Bharti, Jitender Singh, **Pankaj Kumar**, Ravindra Kumar and V. K. Baranwal. (2022). Complete Genomic RNA Sequence of Tuberos Mild Mosaic Virus and Tuberos Mild Mottle Virus Acquired by High-Throughput Sequencing. *Pathogens*, 11(8), 861. (N.R:9.70/I.F.:3.3)

- Prajapati, M. R., Manav, A., Singh, J., **Pankaj Kumar**, Kumar, A., Kumar, R., Prakash, S., and Baranwal, V. K (2022). Identification and Characterization of a Garlic Virus E Genome in Garlic (*Allium sativum* L.) Using High-Throughput Sequencing from India. *Plants*. 11(2) 224. (N.R:10.50/I.F.:4.0)
- Manav, A., Prajapati, M. R., Singh, J., **Kumar, P.**, & Baranwal, V. K. (2022). First report of garlic mite-borne filamentous virus (GarMbFV) infecting garlic (*Allium sativum* L.) in India. *Journal of Plant Pathology*, 104(2), 817-818. (N.R:8.2/I.F.:2.2)
- Manav, A., Prajapati, M. R., Singh, J., Kumar, A., **Kumar, P.**, Pant, R. P., & Baranwal, V. K. (2021). First report of natural infection by two potyviruses on amaryllis (*Hippeastrum hybridum*) plants from India. *VirusDisease*, 32, 830-833. (N.R:5.83/I.F.:2.2)
- Prajapati, M. R., Manav, A., Singh, J., Singh, M. K., Ranjan, K., **Kumar, P.**, ... & Baranwal, V. K. (2022). Identification of Garlic virus A infecting *Allium sativum* L. through next generation sequencing technology. *The Journal of Horticultural Science and Biotechnology*, 97(1), 96-105. (N.R:7.90/I.F.:1.7)
- Shweta, Singh, J., Kashyap, P., Kumar, **P.**, Kumar, R., Panwar, A. S., & Baranwal, V. K. (2021). Molecular identification of citrus greening bacterium associated with Kinnow Mandarin in Western Uttar Pradesh, India. *Indian Phytopathology*, 74, 1135-1141. (N.R:5.97)
- Pooja Sharma, Singh, J., **Pankaj Kumar**, Mukesh Kumar, R. Kumar, Anil Sirohi and V. K Baranwal (2020). Epidemiological Studies and Molecular Characterization of Phytoplasma Associated with Sugarcane. *Phytopathogenic Mollicutes*. 10(2);194-202. (N.R:5.17)
- Singh, J., Truong, T. N., An, D., Prajapati, M. R., Manav, A., **Kumar, P.**, ... & Baranwal, V. K. (2020). Complete genome sequence and genetic organization of a Garlic virus D infecting garlic (*Allium sativum*) from northern India. *Acta Virol*, 64(4), 427-432. (N.R:7.70/I.F.: 1.82)
- Gupta, M. A. D. H. U. R. I., Khanna, S., Singh, J., Singh, J., **Kumar, P.**, & Sirohi, A. N. I. L. (2020). Identification and molecular cloning of abiotic stress tolerant gene (s) and stress induced biochemical changes in lentil (*Lens culinaris*). *Plant Cell Biotechnology and Molecular Biology*, 21, 74-85. (N.R:5.20/I.F.: 0.363)
- Annu Yadav, Himanshi, Shruti, Singh, J., **Pankaj Kumar**, Shivani Khanna, Anil Sirohi (2020). Identification and Expression Analysis of Stress Responsive Genes in Lentil (*Lens culinaris*). *Biotechnology Journal International*, 24(3), 24-34. <https://doi.org/10.9734/bji/2020/v24i330105> (N.R:4.81)
- Surendra Upadhyay, Anamika Bhardia, Malayaj R. Prajapati, Himanshu Maurya, Karishma Kaushik, Harshit Verma, Amit Kumar, Singh, J., **Pankaj Kumar** and Ravindra Kumar (2020). Prevalence and antimicrobial resistance pattern of *E. coli* and *staphylococcus spp.* isolated from the clinical cases of cattle metritis. *Progressive Research*. 15 (1): 55-57 (N.R:4.32)

- Singh, J., Manoj Kumar Singh, Koushlesh Ranjan, Amit Kumar, **Pankaj Kumar**, Anil Sirohi, and V. K. Baranwal (2020). First complete genome sequence of garlic virus X infecting *Allium sativum*-G282 from India. *Genomics*, 112(2), 1861-1865. (N.R:10.40/I.F.: 3.4)
- Khanna, Shivani, Sonali Rana, Singh, J., Manisha Goyal, **Pankaj Kumar**, Neetu Singh, R. P. Pant, and V. K. Baranwal. (2019). First report of association of begomovirus in yellow mosaic disease of bur cucumber in India. *Indian Phytopathology*, 72, 181-184. (N.R:5.97/I.F.:1.09)
- Arya, S., Kumar, S., **Kumar, P.**, Singh, J. and Sirohi, A., (2018). Pigeonpea (*Cajanus cajan*) urease immobilized on alginate beads, showing improved stability and operational parameters. *South Asian Journal of Food Technology and Environment*, 4(1): 631-642 (I.F.: 3.78)
- Goyal, M., Singh, J., **Pankaj Kumar** and Anil Sirohi (2017). Mechanistic insights into longan Brgenes and differential gene expression analysis with Longan embryogenic callus transcriptome. *POJ*, 10(05), 219-231 (I.F.: 1)
- Singh, J., Khanna, S., Ranjan, K., Pant, R.P., **Pankaj Kumar**, Sirohi, A. and Baranwal, V. K. (2017). Evidence of Association of Begomovirus with the Yellow vein Disease of an Ornamental Plant Pot Marigold (*Calendula officinalis*) from Western Uttar Pradesh. *Journal of Pure and Applied Microbiology*. 11(3), 1609-1615 (N.R:6.80/I.F.: 0.7)
- Shivani Khanna, Singh, J., Rupali Singh, **Pankaj Kumar**, Teena Rani, V.K Baranwal Anil Sirohi and Assunta Berticcina (2015). Evidence of association of a ‘Candidatus Phytoplasma cynodontis’ with Bermuda grass (*Cynodon dactylon*) and ‘Candidatus Phytoplasma asteris’ with Periwinkle (*Catharanthus roseus*) from Western Uttar Pradesh, India. *Crop Protection*, 74, 138-144 (N.R:8.80/I.F.: 2.5)
- Singh, J., Singh, A., **Kumar, P.**, Rani, A., Baranwal, V. K., & Sirohi, A. (2015). First report of mixed infection of phytoplasmas and begomoviruses in eggplant in India. *Phytopathogenic Mollicutes*, 5(1s), S97-S98. (N.R:5.17)
- Rani Rosy, Singh, J., **Kumar Pankaj**, Kumar Amit, Rani Anchal, Shukla Pradeep and Misra Pragati (2015). Cloning, In-Silico Characterization and Homology Modelling of Phaseolin gene from Common Bean (*Phaseolus vulgaris*). *Research Journal of Biotechnology*, 10(1), 1-10 (N.R:4.39/I.F.: 0.201)
- Singh, J., Singh, A., **Kumar, P.**, Rani, A., Baranwal, V. K., & Sirohi, A. (2015). Evidence of a mixed infection of Candidatus Phytoplasma trifolii and a Begomovirus in Eggplant (*Solanum melongena*). *Journal of Pure and Applied Microbiology*, 9, 663-670. (N.R:6.80/I.F.: 0.7)
- Anchal Rani, Pragati Misra, Singh, J., **Pankaj Kumar**, Rosy Rani and Pradeep Shukla (2014). Presence of Phytoplasma Infection in Papaya (*Carica Papaya L.*) Plants in Uttar Pradesh, India. *International Journal of Plant Protection* 7(2), 401-404 (I.F.: 1.90)

- Anchal Rani, Pragati Misra, Singh, J., **Pankaj Kumar**, Rosy Rani and Pradeep Shukla (2014). PCR based association in Pot Marigold (*Calendula officinalis* L.) and Guldwari (*Dendranthema grandiflora* L.). *Asian Journal of Bioscience*, 9(2), 238-241 (N.R:3.54)
- Singh A.K., **Kumar, P.**, Singh, J., Rani, R., A., Shukla, P. and Mishra, P., (2014). Genetic Diversity analysis of lentil (*Lens culinaris* Medik) germplasm using molecular marker. *Journal of Cell and Tissue Research*. 14(3), 4531. (N.R:4.39)
- Amit Kumar Singh, **Pankaj Kumar**, Jitender Singh, Rosy Rani, Anchal Rani, Pradeep Shukla and Pragati Misra (2014). Biochemical Profiling of Lentil (*Lens culinaris* Medik) Germplasm at Different Growth Stages. *J. Biol. Engg. Res. & Rev.*,1, 01-06
- Rani Rosy, **Kumar Pankaj**, Singh Jitender, Kumar Amit, Rani Anchal, Shukla Pradeep and Misra Pragati (2014). Blast Analysis of Phaseolin gene from *Phaseolus vulgaris* (Common Bean). *International Journal of Plant Protection*. 1(7), 151-153 (I.F.: 1.90)
- Kumar Amit, **Kumar Pankaj**, Singh Jitender, Rani Rosy, Rani Anchal, Shukla Pradeep and Misra Pragati (2014). Diversity analysis of Lentil (*Lens culinaris* Medik.) germplasm using morphological markers. *Asian Journal of Bio Science*, 9(1), 39-42. (N.R:3.54)
- Gogia, N., **Kumar P.**, Singh, J., Rani Anchal, Sirohi Anil and Kumar Prasann. (2014). Cloning and Molecular characterization of LECASAI lectin Gene from garlic (*Allium sativum* L). *International Journal of Agriculture, Environment and Biotechnology* 7(1), 1- 10 (N.R:4.92/I.F.:7.847)
- Singh, J., Astha Singh, **Pankaj Kumar**, Anchal Rani, V. K Baranwal, Anil Sirohi (2013). Evidence of association of a monopartite Tomato Leaf Curl New Delhi Virus with Chilli leaf curl disease in Western Uttar Pradesh, India. *Vegetos* 26 (2), 203-211 (N.R:5.68/I.F.:0.042)
- Amit Kumar, **Pankaj Kumar**, Jitender Singh, S. K Bhatanagar, and Pooranchand. (2013). Morphological, Biochemical and Molecular Characterization of *Lens culinaris* Medik.) Germplasm. *Progressive Agriculture* 13(1), 8492 (N.R:4.83/I.F.:--)
- Naveen Kumar, D. Singh, S. Gupta, A. Sirohi, B. Ramesh, Preeti Sirohi, Parul Sirohi, Atar Singh, N. Kumar, A. Kumar, Rajendra Kumar, R. Kumar, Jitender Singh, **Pankaj Kumar**, P. Chauhan, Purushottam and S. Chand. (2013). Determination and expression of genes for resistance to blast (*Magnaporthe oryzae*) in Basmati and nonBasmati indica rice (*Oryza sativa* L.) *African Journal of Biotechnology*, 12(26), 4098-4104. (N.R:--/I.F.:0.6)
- Singh J, Rani A, **Kumar P**, Baranwal V. K., Saroj P. L., Sirohi A, 2012. First report of a 16SrII-D phytoplasma 'Candidatus Phytoplasma australasia' associated with a tomato disease in India. *New Disease Reports* 26, 14. (N.R:--/I.F.:1.0)
- Singh, J., Bhardwaj, J., **Kumar, P.**, Tomar, P., Rani, A., Rani, R., ... & Sirohi, A. (2014). In-silico validation and comparative analysis of candidate gene encoding proline rich protein in *Lens culinaris*. *Legume Research-An International Journal*, 133-138. (N.R:6.80/I.F.:0.8)



- Singh, J., Singh, A., **Kumar, P.**, Rani, A., Barnwal, V. K., Sirohi, A., ... & Singh, D. (2013). Evidence of association of a tomato leaf curl New Delhi virus with chilli leaf curl disease in western Uttar Pradesh, India. *Vegetos*, 26(2), 203-211. (N.R:5.68/I.F.:0.042)
- D. Singh, A. Kumar, Ashok Kumar, P. Chauhan, V. Kumar, N. Kumar, A. Singh, N. Mahajan, P. Sirohi, S. Chand, B. Ramesh, J. Singh, **P. Kumar**, R. Kumar, R.B. Yadav and R. K. Naresh Marker assisted selection and crop management for salt tolerance. *African Journal of Biotechnology* 10(66), 14694-14698 (N.R:--/I.F.:0.6)
- K. Mehla, S. Chaudhary, A. Kumar, V. Kumar, P. Chauhan, S. Gupta, J. Singh, **P. Kumar**, V. Kumar, N. Kumar, Jindal, S. Kumar, V. Sharma, S. Chand, N. Mahajan, A. Singh, B. Ramesh and D. Singh (2011) Advances in DNA sequencing: Challenges and limitations of personal sequencing *African Journal of Agricultural Research*, 6(6), 1277-1280 (N.R:6.0)
- D. Singh, A. Kumar, A. Sirohi, **P. Kumar**, J. Singh, V. Kumar, A. Jindal, S. Kumar, N. Kumar, V. Kumar, V. Sharma, S. Gupta and S. Chand (2011) Improvement of basmati rice (*Oryza sativa* L.) using traditional breeding technology supplemented with molecular markers. *African Journal of Biotechnology* 10 (04): 499-506 (N.R:--/I.F.:0.6)
- Shishupal Singh, I. P. Singh, Satya Prakash, **Pankaj Kumar** and Sushil Kumar. (2010). Changes in physical-chemical composition associated with different stages of maturity of guava (*Psidium guajava* L.) fruits cv. Sardar. *Journal of Scientific and Applied Research* 1(2): 32-35
- **Pankaj Kumar**, P. K., & Deshmukh, P. S. (2008). Effect of moisture stress at different growth stages and role of growth regulators on biochemical parameters and osmotic adjustment in chickpea genotypes. *Vegetos* 21(2): 21-33. (N.R:5.68/I.F.:0.042)
- Naseem, M., Dutta, M., **Pankaj Kumar**, Gupta, A., Choudhary, V. K. and Maiti, A. R. (2008). Physiological, physiochemical and biophysical characterization of buckwheat (*Fagopyrum Spp.*) genotypes. *International Journal of Agriculture environment & Biotechnology* 1(3), 81-88. (N.R:4.92/I.F.:7.847)
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- Identification and Characterization of Microbial Pathogens in Agriculture Through High-Throughput Sequencing. International Workshop on Molecular Diagnostics in Microbiology and Diseases. 11<sup>th</sup>-12<sup>th</sup> December, 2023, ICGEB, Binh Dinh, Vietnam.
- Biofortification of Food Crops: Present status and Future perspectives. Faculty Training Integrating Molecular and Bioinformatic Tools for Advancing Agriculture & Allied Sciences 26<sup>th</sup> Oct- 08<sup>th</sup> Nov. 2023. COE, UP-CST, SVPUAT, Meerut.
- Primer Designing. Faculty Training Integrating Molecular and Bioinformatic Tools for Advancing Agriculture & Allied Sciences 26<sup>th</sup> Oct- 08<sup>th</sup> Nov. 2023. COE, UP-CST, SVPUAT, Meerut.
- De novo transcriptome analysis and identification of defensive gene in garlic (*Allium sativum* L.) using high-throughput sequencing. Plant-Beneficial function perdition of *Bacillus subtilis* species through NGS technology. 06<sup>TH</sup> -13<sup>TH</sup> NOVEMBER, 2022, ICGEB, SFAX, TUNISIA.
- Throughput Sequencing Genome Annotation and its Tool. Fourteen days training programme on “NEW AGE TECHNOLOGYIES FOR ANIMAL PRODUCTION AND VETERINARY PRACTICES. 21<sup>th</sup> November-04<sup>th</sup> December, 2022. ICAR-IG-NAHEP Project. CoVAS, SVPUAT, Meerut.
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## Manual

Name of publication/ Practical / Training Manual	Authors	Year	Publisher
Practical Manual on “ <b>Integrating Molecular and Bioinformatic Tools for Advancing Agriculture &amp; Allied Sciences</b> ”	<b>Pankaj Kumar</b> , Jitender Singh and Malyaj R. Prajapati	2023	<i>Notion Press</i> . ISBN: 979-8891861695
Training Manual on ‘ <b>Molecular Biology Tools and It's Application in Agriculture &amp; Allied Sciences</b> ’	<b>Pankaj Kumar &amp;</b> Jitender Singh	2021	<i>Swaranjali Publication, Pvt. Ltd.</i> ISBN 978-93-5406-328-2
Training Manual on “ <b>Application of Molecular and Bioinformatic Tools in Agriculture &amp; Allied Sciences</b> ”	<b>Pankaj Kumar &amp;</b> Jitender Singh	2021	<i>National Research &amp; Journal Publication</i> . ISBN: 978-93-90573-49-3
<b>Laboratory Manual for Practical Biochemistry</b>	Mahesh Kumar Bharti, <b>Pankaj Kumar</b> and Sandep Kumar	2020	<i>Swaranjali Publication</i>
<b>Laboratory manual for Enzymes and Enzyme Techniques</b>	Mahesh Kumar Bharti, <b>Pankaj Kumar</b> and Sandep Kumar	202	<i>Swaranjali Publication</i>
Training Manual on ‘ <b>Application of Molecular and Bioinformatic Tools in Agriculture &amp; Allied Sciences</b> ’ from December 11, 2020 to December 24, 2020. ISBN 978-93-90573-49-3	<b>Pankaj Kumar &amp;</b> Jitender Singh	2020	Swaranjali Publication
Training Manual on <b>Application of Molecular &amp; Bioinformatics Tools in Agriculture and Allied Sciences</b> (Feb.10 – Feb. 25, 2020) ISBN 978-93-5406-328-2	<b>Pankaj Kumar &amp;</b> Jitender Singh	2020	Swaranjali Publication
Training Manual on <b>Application of Molecular Biology tools and Bioinformatics in Agriculture</b>	<b>Pankaj Kumar &amp;</b> Jitender Singh	2016	SVP University of Agri. & Tech. Meerut
Training Manual on <b>Application of Biotechnology Tools and Bioinformatics in Agriculture</b>	<b>Pankaj Kumar &amp;</b> Jitender Singh	2015	SVP University of Agri. & Tech. Meerut
Training Manual on “ <b>Application of Molecular biology tools and bioinformatics in Agriculture</b> ”	<b>Pankaj Kumar &amp;</b> Jitender Singh	2014	SVP University of Agri. & Tech. Meerut
Training Manual on <b>Application of Biotechnology Tools and Bioinformatics in Agriculture</b>	<b>Pankaj Kumar &amp;</b> Jitender Singh	2013	SVP University of Agri. & Tech. Meerut
<b>A Practical Manual on hands on Training in Molecular Biology and Their Application in Agriculture</b>	<b>Pankaj Kumar</b> , Jitender Singh, Sandeep Kumar	2012	SVP University of Agri. & Tech. Meerut
<b>Application of Molecular Tools &amp; Advanced Biochemical Techniques in Agriculture a Practical Manual</b>	<b>Pankaj Kumar</b> , Jitender Singh	2010	SVP University of Agri. & Tech. Meerut
Proceedings on <b>Advances in Biotechnological Research in Agri-Horticultural Crops for sustaining Productivity Quality Improvement &amp; Food Security</b> . ISBN938136135-5	<b>Pankaj Kumar</b> , Jitender Singh, Anil Sirohi, Sandeep Kumar, Rajendra Singh, Amit Kr. Singh	2011	SVP University of Agri. & Tech. Meerut
Souvenir and Compendium of Abstracts “ <b>Advances in Biotechnological Research in Agri-Horticultural Crops for sustaining Productivity Quality Improvement &amp; Food Security</b> ”. ISBN 938136136-3	<b>Pankaj Kumar</b> , Jitender Singh, Sandeep Kumar, Amit Kumar Singh	2011	SVP University of Agri. & Tech. Meerut
Souvenir and Compendium of Abstracts “ <b>Physiological and molecular</b>	<b>Pankaj Kumar</b> , Jitender Singh and Amit	2010	SVP University of Agri. & Tech. Meerut

Intervention for yield and Quality Improvement in Crop Plants”	Kumar Singh		
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### Sequences submitted to GenBank

S. No.	Definition	Acc. Number
1.	First report of a Candidatus Phytoplasma asteris'-related strain infecting peach { <i>Prunus persica</i> L. (Batsch)} in India (2013)	<b>AB858361</b>
2.	First report of a Candidatus Phytoplasma asteris'-related strain infecting peach { <i>Prunus persica</i> L. (Batsch)} in India (2013)	<b>AB858360</b>
3.	First report of a Candidatus Phytoplasma asteris-related strain infecting peach ( <i>Prunus persica</i> (L.) Batsch) in India (2013)	<b>KF723593</b>
4.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF437510</b>
5.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF234574</b>
6.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF234573</b>
7.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF234572</b>
8.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF234571</b>
9.	Characterization of phytoplasmas associated with Periwinkle phyllody diseases in Western Uttar Pradesh, India (2013)	<b>KF234570</b>
10.	Indian Sesame phyllody phytoplasma 16S ribosomal RNA gene, partial sequence. (2011)	<b>JF706215</b>
11.	Lentil ( <i>Lens culinaris</i> ) Heat Shock Protein [HSP 70] Expression Analysis During Heat Stress	<b>LC156096</b>
12.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>AB976527</b>
13.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>AB976526</b>
14.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>AB976105</b>
15.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>AB976104</b>
16.	First report of a Candidatus Phytoplasma asteris'-related strain infecting peach { <i>Prunus persica</i> L. (Batsch)} in India	<b>BAO01150</b>
17.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>BAP27993</b>
18.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>BAP27992</b>
19.	Molecular characterization and diversity analysis of begomovirus associated with leaf curl disease in Tomato from western Uttar Pradesh (2014)	<b>BAP27991</b>
20.	Tomato leaf curl New Delhi virus [Potato; Kufri Pukhraj] from Meerut (2014)	<b>BAP27990</b>
21.	Near to complete genome Garlic virus A	<b>MT731489, MT731490</b>



22.	Near to complete genome Leek yellow stripe virus	<b>MT731491, MT731492</b>
23.	Near to complete genome Onion yellow dwarf virus	<b>MT731493, MT731494, MT731495</b>
24.	Near to complete genome Garlic common latent virus	<b>MT731496</b>
25.	Near to complete genome Shallot latent virus	<b>MT731497</b>
26.	Near to complete genome Garlic virus X	<b>MT731498, MT731499</b>
27.	CP gene of OYDV in garlic	<b>MZ322662</b>
28.	Near to complete genome Garlic virus D	<b>MT731500MT731501</b>
29.	Garlic virus B isolate GarV-B replicase gene	<b>MT919304, MW074890, MW074887, MW074889, MW074888</b>
30.	Shigella sonnei strain SVPUAT-AK 16S ribosomal RNA gene	<b>MW697089</b>
31.	Escherichia coli strain SVPUAT 16S ribosomal RNA gene	<b>MW65410</b>
32.	Escherichia fergusonii strain SVPUAT-AK 16S ribosomal RNA gene	<b>MW653953</b>
33.	Klebsiella pneumonia strain K3 16S ribosomal RNA gene	<b>MW346043, MW346044</b>
34.	Complete genome of Garlic virus E	<b>MW925710</b>
35.	Partial CP/NABP gene of E	<b>MW925695</b>
36.	CP gene of OYDV in Amaryllis	<b>MZ203479, MZ203480, MZ203481, MZ203482</b>
37.	CP gene of LYSV in Amaryllis	<b>MZ203474, MZ203475, MZ203476, MZ203477, MZ203478</b>
38.	Complete coat protein of Garlic virus B	<b>MW925694</b>
39.	Plantago ovata alphaendornavirus	<b>BK059207, MZ514136</b>
40.	Plantago yellows virus	<b>BK059206</b>
41.	Near to complete genome Leek yellow stripe virus	<b>MT731491, MT731492</b>
42.	Near to complete genome Onion yellow dwarf virus	<b>MT731493, MT731494, MT731495</b>
43.	Near to complete genome Garlic common latent virus	<b>MT731496</b>
44.	Near to complete genome Shallot latent virus	<b>MT731497</b>
45.	Near to complete genome Garlic virus X	<b>MT731498</b>
46.	Near to complete genome Garlic virus X	<b>MT731499</b>
47.	Klebsiella pneumoniae strain K3 16S ribosomal RNA (BM)	<b>MW346043, MW346044</b>
48.	E. coli buffalo milk	<b>MW353603, MW353604</b>
49.	Candidatus Phytoplasma	<b>AB858361,</b>
50.	Candidatus Phytoplasma asteris' (Group 16SrI) Infecting Peach (Prunus persicae)	<b>HM988985, AB858360'</b>
51.	16SrIX (witches' broom) phytoplasma associated with toria (Brassica rapa cv. toria) phyllody Pigeon pea disease	<b>HM988986</b>
52.	Sesamun Phyllody Phytoplasma	<b>JF706215</b>
53.	'Candidatus Phytoplasma australasia' associated with a tomato disease	<b>JX104335</b>
54.	'Candidatus Phytoplasma Trifolia' associated with Brinjal.	<b>JX104336</b>
55.	GenBank Accession Nos.: <b>KX678985, JX564851, JX678985, JX564851, JX561228, JX193616, JF706215, HM030725, FJ617224, KC513743, JX193616, KC513743, DQ875213, EU708316, EU708317, KF437510, KF234574, KF234573, KF234572, KF234571, KF234570, KF723593</b>	

## ADMINISTRATIVE DUTIES

Since November 2022, I have been associated with the OSD, College of Sugarcane Science and Technology at SVPUA&T. I have held several significant positions at the College of Biotechnology, including Head of Bioinformatics since January 2023, Head of the Division of Microbial and Environmental Biotechnology from August 2021 to January 2023, and Head of the Department of Biochemistry and Physiology from June 2016 to August 2021. Prior to that, I was the Head of the Department of Immunology and Defense Mechanism from August 2018 to August 2021 and the Officer In-Charge of the Department of Biochemistry and Physiology from October 2007 to June 2016. I also served as the Officer In-Charge of Immunology and Defense Mechanism from December 2010 to 2014.

Beyond these roles, I have undertaken various responsibilities, including being the Associate Dean of Student Welfare and Hostel at SVPUAT since June 2016 and the Officer In-Charge of the University Central Library from July 2017 to December 2018.

I have been actively involved in examination-related roles, such as Associate Superintendent Examination & OIC Examination Cell from December 2007 to June 2017, and Superintendent of Examinations for the academic year 2017-2018. Additionally, I have participated in placements, security advisory committees, purchase committees, and various boards of studies. I also contributed to Research and Development Cells as an expert, served as a member of Flying Squads for entrance exams, and managed the Central Instrumentation Facility at the College of Biotechnology.

My contributions extend beyond academia and research, as I have served as a Warden and Assistant Warden in various hostels and been involved in faculty selection and university accreditation committees. I possess a diverse background with extensive experience in academia, research, and administrative responsibilities across multiple roles and institutions.

**[Pankaj Kumar]**