

Dr Pankaj Kumar

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Ongoing Research Projects

- Development of infectious clone, point-of-care diagnostics and transcriptome profiling for apple (*Malus domestica*) exhibiting mosaic disease associated with apple necrotic mosaic virus in Northwestern Himalayan region of India funded by ICAR- NASF from April 2024 to March 2027 (Co-PI).
- Production of quality planting material of commercially important fruit crops through tissue culture funded by H.P. State Govt. (Research and Development Fund Scheme) from April 2023 to March 2025 (Co-PI).

Important Research Publications

- Kumar P and Irfan M. 2024. Green ripe fruit in tomato: unraveling the genetic tapestry from cultivated to wild varieties. *Journal of Experimental Botany*, 75(11), pp.3203-3205.
- Chandora R, Paul S, Kanishka RC, Kumar P, Singh B, Kumar P, Sharma A, Kumar A, Singh D, Negi N and Lata S. 2023. Ecological survey, population assessment and habitat distribution modelling for conserving *Fritillaria roylei* -A critically endangered Himalayan medicinal herb. *South African Journal of Botany*. 160:75-87
- Irfan M, Kumar P, Kumar V and Datta A. 2022. Fruit ripening specific expression of β -DN-acetylhexosaminidase (β -Hex) gene in tomato is transcriptionally regulated by ethylene response factor *SIERF. E4*. *Plant Science*. 323:111380
- Kumar A, Sharma DP, Dogra RK, Singh G, Sharma R, Kumar P. 2022. Identification and characterization of Apple (*Malus domestica* Borkh.) bud sports mutations in the apple growing Northwestern Himalayan region. *Scientia Horticulturae*. 304: 111308
- Kumar P, Partap M, Kumar P, Pal PK, Kumar D, Warghat AR and Kumar S. 2022. Fruit derived callus and cell suspension culture as promising alternative sources for mogrosides production in *Siraitia grosvenorii* (Swingle) C. Jeffrey: a zero-caloric natural sweetener. *Journal of Food Composition and Analysis*. 108:104450
- Irfan M, Kumar P, Ahmad I and Datta A. 2021. Unraveling the role of tomato Bcl-2-associated athanogene (BAG) proteins during abiotic stress response and fruit ripening. *Scientific Reports* 11(1):1–5
- Kumar G, Kumar P, Kapoor R, Lore JS, Bhatia D and Kumar A. 2021. Characterization of evolutionarily distinct rice BAHD-Acyltransferases provides insight into their plausible role in rice susceptibility to *Rhizoctonia solani*. *The Plant Genome*. 14: e20140
- Kumar P, Acharya V and Warghat AR. 2021. Comparative transcriptome analysis infers bulb derived *in vitro* cultures as a promising source for sipeimine biosynthesis in *Fritillaria cirrhosa* D. Don (Liliaceae, syn. *Fritillaria roylei* Hook.)- High value Himalayan medicinal herb. *Phytochemistry*. 183:112631

- Kumar P, Partap M, Kumar A, Joshi R, Kumar D and Warghat AR. 2020. Effect of elicitors on morpho-physiological performance and metabolites enrichment in *Valeriana jatamansi* cultivated under aeroponic conditions. *Frontiers in Plant Science*. 11:01263
- Kumar P, Partap M, Rana D, Kumar P and Warghat AR. 2020. Metabolite and expression profiling of steroidal alkaloids in wild tissues compared to bulb derived *in vitro* cultures of *Fritillaria roylei*—high value critically endangered Himalayan medicinal herb. *Industrial Crops and Products*. 145:111945

Books

- Thakur AK, **Kumar P** and Srivastava DK. 2024. *Biotechnological Advances in Horticultural Crops (1st ed)*. CRC Press, Taylor and Francis Group, Boca Raton, London, New York. p234. ISBN 9781032381343.
- Irfan M and **Kumar P**. 2024. *Bioengineered Fruit and Vegetables: Trends in Postharvest Quality Improvement*. CRC Press, Taylor and Francis Group, Boca Raton, London, New York. P346. ISBN 9781774917480.
- Bhargava B, **Kumar P** and Verma V. 2024. *Ornamental Horticulture: Latest Cultivation Practices and Breeding Technologies (1st ed)*. Springer Nature, Singapore. P333. ISBN 9789819740277.
- **Kumar P** and Negi S. 2022. *Agri-Biotech: One Liner Question Bank (1st ed)*. Jaya Publisher, New Delhi, India. p99. ISBN 9789392851551.
- **Kumar P**, Warghat AR, Partap M and Sharma R. 2022. *Plant Biotechnology Research Analysis -A Practical Handbook for Beginners (1st ed)*. Jaya Publisher, New Delhi, India. p151. ISBN 9789392851605.
- **Kumar P** and Thakur AK. 2021. *Crop Improvement: Biotechnological Advances (1st ed)*. CRC Press, Taylor and Francis Group, Boca Raton, London, New York. p254. ISBN 9780367567095.
- Srivastava DK, Thakur AK and **Kumar P**. 2021. *Agricultural Biotechnology: Latest Research and Trends (1st ed)*. Springer Nature, Singapore. p726. ISBN 9789811623387.

Awards & Recognitions

- Young Scientists Fellowship Award-2021, Department of Health Research, ICMR-New Delhi, GOI.
- Scientist's Pool Scheme Award-2020, CSIR-HRDG-Senior Research Associateship, CSIR, New Delhi, GOI.
- International Fellowship Award-2019, The Volcani Center, Dept. of Ornamental Horticulture Agricultural Biotechnology, State of Israel/Ministry of Agriculture, Agricultural Research Organization, Israel.
- SERB-ACS-NPDF Best Poster Award-2022, Poster Competition 2022 in the biological science category, SERB, New Delhi, GOI.
- Excellence in Research Award-2019 by Agro-Environmental Development Society, India.
- Best Poster Award-2024, in the International Conference on Enabling Sustainable Food Systems through Natural Farming organized by Dr. YS Parmar University of Horticulture and Forestry, Solan (HP), in collaboration with INRAE, France & The Indian Ecological Society (HP Chapter), September 13–14, 2024.

- Best Oral Presentation Award-2024, in Two Days National Conference on Plant Biodiversity: As a Sustainable Supply of Bioactive Compounds (Essential Compounds) for Environment and Human Health (PBSSBC-2024), organized by Government Degree College Talwari Tharali (Chamoli), Uttarakhand, September 20–21, 2024.
- Certificate of Appreciation (2023), in recognition of service as a member of the Editorial Board of *Vegetos: An International Journal of Plant Research & Biotechnology* (Springer).
- University Letter of Appreciation (2023) for developing molecular diagnostic kits for the identification and quantification of *Trichoderma atroviride* and *Trichoderma longibrachiatum* in collaboration with the Department of Plant Pathology and the ICAR-Central Potato Research Institute, Shimla.
- Best Poster Presentation Award-2019 in Golden Jubilee National Symposium on Current Interventions to Plants and Microbes for Environmental and Agriculture Sustainability (CIPME -2019) at Guru Nanak Dev University Amritsar, Punjab.
- Young Scientist Award -2019 by the Society of Tropical Agriculture, India.
- Young Scientist Award (Biotechnology)-2018 by Society for Plant Research, India
- Award of DST Young scientist Scheme-2017, SERB-National Post-Doctoral Fellowship, SERB, New Delhi, GOI.
- Award of Merit Certificate (2016) for Securing First Rank/position achieving highest OGPA in Ph.D. Molecular Biology and Biotechnology.
- Award of ICAR AICE-SRF (PGS)-2014, ICAR, New Delhi, GOI.
- ICAR ASRB National Eligibility Test (NET) Award -2013, ASRB, New Delhi.
- DST INSPIRE Junior/Senior Research Fellowship Award-2013, DST, GOI.
- Award of Merit Certificate (2012) for Overall First in Post-Graduation (Academic Batch, 2010-2012).
- Awarded with Silver Medal and merit certificate (2010) for securing top position in B.Sc. Degree Program.
- Editorial and Reviewer Recognition Award by Elsevier, CRC Taylor& Francis, Wiley and Springer publishers.