

Dr Rajnish Sharma

Associate Professor & Head

Specialization: Plant Biotechnology & Molecular Biology
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Ongoing Research Projects

- Molecular and agronomic evaluation of *in vitro* developed tolerant tomato somaclones against devastating disease Fusarium wilt funded by Department of Environment Science & Technology, Shimla (HP) from 2023 to 2027 (Principal Investigator).
- Micropropagation for commercial scale production of quality walnut planting material in Himachal Pradesh funded by RKVY-RAFTAAR from 2025 to 2027 (Co-Project Investigator).

Important Research Publications

- Kumar V, **Sharma R**, Sharma P, Sharma YP and Sharma R. 2025. Developmental stage significantly affects *in vitro* propagation practices: A case study in *Paris polyphylla* Smith, an important endangered medicinal plant of Himalayas. *Journal of Plant Growth Regulation*. <https://doi.org/10.1007/s00344-025-11636-4>
- Thakur K, **Sharma R**, Sharma P, Thakur A, Zadokar A, Kumar V and Dutt B. 2025. *De novo* transcriptome assembly, novel EST-SSRs development and preliminary genetic analysis in *Saussurea costus* (Falc.) Lipsch, an industrially important endangered medicinal herb of the North-Western Himalayas. *Plant Molecular Biology Reporter*. 43(3):1232-1248
- Shakshi, Khan S, Khagta K, Sharma P, Kumari C, Narwal S, **Sharma R** and Rana VS. 2026. Meta-topolin as an effective cytokinin source to enhance *in vitro* establishment, shoot multiplication and alleviation of shoot tip necrosis (STN) in kiwiberry (*Actinidia arguta*) cultivars. *Plant Cell Tissue and Organ Culture*. 164:97. <https://doi.org/10.1007/s11240-026-03410-5>
- Kumar V, Garima, **Sharma R**, Thakur A, Sharma P, Sharma YP, Thakur A and Sharma S. 2024. Conserving industrially important endangered medicinal herb *Trillium govanianum* (Himalayan Trillium) through biotechnological based interventions. *Plant Cell Tiss Organ Cult*. **159**: 3.
- Chaudhary D, Kumar V, **Sharma R**, Devi S, Sharma P, Kumar P. 2024. Isolation, characterization and management of endophyte(s) prevailing during the *in vitro* establishment of endangered medicinal herb Himalayan Trillium (*Trillium govanianum* Wall. ex D. Don). *Plant Cell Tissue and Organ Culture*. **156**(1):16.
- Kapoor B, Sharma M, **Sharma R**, Zadokar A, Thakur A, Sharma P, Kumar S, Rozar KP, Kumar KS, Hegde N and Pandey D. 2023. *De novo* transcriptome profiling and development of novel secondary metabolites based genic SSRs in medicinal plant *Phyllanthus emblica* L. (Aonla). *Scientific Reports*. **13**:17319.
- Poonam, **Sharma R**, Sharma P, Sharma NC, Kumar K, Singh KN, Bhardwaj V, Negi N and Chauhan N. 2023. Exploring genetic diversity and ascertaining genetic loci associated with important fruit quality traits in apple (*Malus × domestica* Borkh.). *Physiology and Molecular Biology of Plants*. **29**: 1693-1716
- Shaunak I, **Sharma R**, Sharma P, Gupta M and Bhardwaj RK. 2023. Developing resistance against soil-borne Fusarium pathogen causing tomato wilt through *in vitro* cell line selection. *Plant Cell Tissue and Organ Culture* **153**:91-104.
- Kumar A, Sharma DP, Dogra RK, Singh G, **Sharma R** and 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.

- Thakur D, Sharma P, **Sharma R**, Kumari C and Rana VS. 2022. Critical factors governing the efficient direct organogenesis in green-fleshed kiwifruit (*Actinidia deliciosa*) [A. Chev.] var. *deliciosa*. *In Vitro Cellular and Developmental Biology - Plant*. **58**:1107-1116.
- Negi S, Sharma G and **Sharma R**. 2020. Introgression and confirmation of everbearing trait in strawberry (*Fragaria x ananassa* Duch.). *Physiology and Molecular Biology of Plants*. **26**(12):2407-2416.

Books and manuals

- Kaur R, Bhardwaj SV and **Sharma R**. 2013. *Biotechnology - A Ready Reckoner*, Westville Publishing House, New Delhi. p150.
- Kumar P, Warghat AR, Partap M and **Sharma R**. 2022. *Plant Biotechnology Research Analysis - A Practical Handbook for Beginners*, Jaya Publishing House, Delhi. p151.
- Kumar P, Sharma P, Singh A, Sharma S, Thakur M and **Sharma R**. 2023. *Practical Manual on Elementary Plant Biotechnology*, Dr YS Parmar University of Horticulture & Forestry, Nauni, Solan (HP). p40.

Awards & Recognitions

- Honorary position as a Senior Research Fellow in the Faculty of Health and Life Sciences at De Montfort University, Leicester, UK.
- Overseas training on 'DNA Barcoding in Plants' at De Montfort University, Leicester, UK under ICAR sponsored NAHEP-IDP programme (March 2023).
- International travel grant from DST, Ministry of Science & Technology, New Delhi to Italy (Year 2013).
- DST Young Scientist Fellowship under Fast Track Scheme (Year 2009).
- CSIR Research Associateship for two years (Year 2007).
- University Gold Medal and Honours Certificate in Doctoral Programme (Year 2007).
- Gold Medal and Honours Certificate by Himotkarsh Sahitya-Kala Parishad, Una (HP) (Year 2007).
- Qualified ICAR-NET Exam, 2003 in Biotechnology (Agri. Sciences).
- Best oral presentation conferred in International conference "BioSangam 2022: Emerging trends in Biotechnology" held at Motilal Nehru National Institute of Technology, Pryagraj w.e.f. March 10-12, 2022. (*Self*)
- Best oral presentation conferred in the National Conference "Future of Agriculture and Agriculture for Future: Indian Perspectives" held at SKUAST-K, Srinagar w.e.f. Sept. 04-06, 2023. (*Self*)
- Best oral presentation conferred in the National Seminar "Challenges, opportunities and strategies of plant science for crop improvement" held at Birsa Agricultural University, Ranchi w.e.f. Nov. 08-09, 2023. (*Self*)
- Second best poster award conferred to MN Adarsh by Indian Phytopathological Society (NZ) in National Symposium on "Holistic approaches for plant health management" w.e.f. September 28-29, 2015. (*As co-advisor*)
- First poster award conferred to Himanshu Pandey in 'Progressive Horticulture Conclave-2019' held at ICAR-Central Institute for Subtropical Horticulture, Lucknow w.e.f. December 08-10, 2019. (*As major advisor*)
- Best Research Thesis Award-2020 conferred to Dr Himanshu Pandey by Agricultural Technology Development Society, UP, India in the 4th International Conference w.e.f. February 26-28, 2021. (*As major advisor*)
- Best poster award conferred in XXII National Symposium on 'Climate smart agronomy for resilient production systems and livelihood security' held at ICAR-Central Coastal Agricultural Research Institute, Goa w.e.f. Nov. 22-24, 2023. (*As co-author*)
- First best oral presentation awarded to Ms Shivanti Negi in the 3rd Indian Horticulture Summit-cum-International Conference-2024 held at Rajasthan Agricultural Research

- Institute, Jaipur, Rajasthan, India *w.e.f.* February 1-3, 2024. (*As major advisor*)
- Second best oral presentation awarded to Ms Anamika Thakur in the 3rd Indian Horticulture Summit-cum-International Conference-2024 held at Rajasthan Agricultural Research Institute, Jaipur, Rajasthan, India *w.e.f.* February 1-3, 2024. (*As major advisor*)
 - Best oral presentation awarded to Ms Anamika Thakur in the National Symposium on 'Genomics Revolution to Foster Advances and Innovations in Crop Improvement' held at the PAU, Ludhiana, India *w.e.f.* February 27-29, 2024. (*As major advisor*)
 - Young Researcher Award to Dr Anamika Thakur in 13th International Conference ICAHFAS-2026 "The Agriculture, Horticulture, Forestry & allied Sciences for Sustainable Himalayan Ecosystem" held at HFRI, Shimla (HP) *w.e.f.* March 18-20, 2026. (*As major advisor*)
 - Young Scientist Award to Dr Anamika Thakur in ICBBES 2026 - 2nd International Conference on Biomanufacturing, Bio-Innovation, and Environment Sustainability held at Chandigarh University *w.e.f.* April 10-11, 2026. (*As major advisor*)