

## Dr Rajnish Sharma

### Associate Professor & Head

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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 2026 (Principal 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*. <https://doi.org/10.1007/s11105-025-01539-9>
- 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 x 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 x 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 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*)
- Best oral presentation conferred in International conference "BioSangam 2022: Emerging trends in Biotechnology" held at Motilal Nehru National Institute of Technology, Prayagraj w.e.f. March 10-12, 2022. (*Self*)
- 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 3<sup>rd</sup> 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 3<sup>rd</sup> 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*)
- Best Research Thesis Award-2020 conferred to Dr Himanshu Pandey by Agricultural Technology Development Society, UP, India in the 4<sup>th</sup> International Conference w.e.f. February 26-28, 2021. (*As major 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*)
- 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*)