

Dr. Vijay Laxmi, Ph.D., CSIR-NET.

Assistant Professor
High Altitude Plant Physiology Research
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EDUCATIONAL QUALIFICATIONS:

Ph.D. Plant Physiology - H.N.B. Garhwal University, Srinagar Garhwal, Uttarakhand (2018)

Post-graduation (M.Sc. – Botany) - Govind Ballabh Pant University of Agriculture & Technology, Pantnagar, Uttarakhand, (2012 – 1st Class 78.80%)

Graduation (B.Sc.) - Botany, Zoology & Chemistry from H.N.B. Garhwal University, Srinagar Garhwal, Uttarakhand (2010 - 1st Class 72%)

Intermediate (12th) - Jawahar Navodaya Vidyalaya, Bansu Jakhdhar, District Rudraprayag, Uttarakhand, (2007- 1st Class 75%)

Highschool (10th) - Jawahar Navodaya Vidyalaya, Bansu Jakhdhar, District Rudraprayag, Uttarakhand, (2005- 1st Class 77%)

POSITIONS HELD (TEACHING EXPERIENCE):

March 2020 - Continuing	Assistant Professor at the High-Altitude Plant Physiology Research Centre (HAPPRC), HNB Garhwal University (A Central University) Srinagar Garhwal, Uttarakhand
Sept 2019 – March 2020	Guest Faculty at the High-Altitude Plant Physiology Research Centre (HAPPRC), HNB Garhwal University (A Central University) Srinagar Garhwal, Uttarakhand
August 2017- May 2019	Guest Faculty at the Department of Botany and Microbiology, Hemvati Nandan Bahuguna Garhwal University (HNBGU), B.G.R. Campus, Pauri Garhwal, Uttarakhand

ACHIEVEMENTS (Awards/Honors/Fellowship)

- 2021 **Young Women Scientist Award-** 2021 Received on the occasion of the 3rd International conference on Global Initiative in Agricultural, forestry, and Applied Sciences for Food Security, Environmental Safety and Sustainable Development (GIAFAS-2021) at Shri Guru Ram Rai University, Deharadun, Uttarakhand, India.
- 2016 **2nd prize on poster presentation** - “Hippophae salcifolia D. Don: An alternative of Hippopae rhamnoides in Uttarakhand Himalaya” on National Conference on Agrotechnology, Commerce and Sustainable Use of Medicinal and Aromatic Plant, organized by society for conservation and resource development of medicinal plants (SMP) New Delhi Feb. 06-07-2016.
- 2013 **CSIR-NET, Life Science**, CSIR - Human Resource Development, Govt. of India
Rank - 0036/0964
- 2014 **CSIR-NET, Life Science**, CSIR - Human Resource Development, Govt. of India
Rank - 0048/1047

MEMBER OF SOCIETY

- ✦ Society for conservation and resource development of medicinal plants (SMP)
- ✦ IUCN Species Survival Commission (SSC) (IUCN SSC Alpine Plants Specialist Group)

SUMMARY OF RESEARCH PUBLICATIONS

Research papers (Peer-reviewed Journal)	30
Book chapters	11
Patent (3 Granted, 3 Published)	06
Copyright	01
Books	00
Total	48

Areas of Interest/ Specialization

Plant Tissue Culture
Plant Physiology and Alpine Plants
Modern Cultivation Techniques
Conservation and promotion of medicinal plants

Research Supervision:

Ph. D	03
M. Phil.	01
M.Sc.	19
Total	23

RESEARCH PAPERS IN PEER-REVIEWED JOURNALS

1. Antimicrobial activity of dried stolon extracts of *Picrorhiza kurrooa* Royle ex. Benth. An endemic and endangered Himalayan herb, **V Laxmi** and Preeti Chaturvedi, ENVIS Bulletin Himalayan Ecology, ISSN: 0971-7447, (2015), 23: 127-132.)
1. Effects of Anthropogenic Activities in High Altitude Areas of Garhwal Himalaya: An Overview. D Chand, J Sati, **V Laxmi**, MC Nautiyal, ESSENCE - International Journal for Environmental Rehabilitation and Conservation, ISSN: 0975 – 6272, (2016), 7(1):78
2. Antioxidant Potential of Herbal Tea from *Rhododendron anthopogon* D. Don and *Hippophae salcifolia* D. Don **VL Trivedi**, J Sati, D Chand and MC Nautiyal, Journal of Non-Timber Forest Products, ISSN: 0971-9415, (2017), (3)131-135.
3. Antimicrobial Potential of Acetone and Methanol extracts of *Rhus parviflora* Roxb, M Panwar, **V Laxmi**, D Chand, MC Nautiyal, Indian Journal of Forestry, ISSN: 0971-9431
4. Status of Priority based Subsidized MAP Species for Cultivation and Conservation in Chamoli District, Uttarakhand Himalaya, D Chand, **V Laxmi**, J Sati, MC Nautiyal, Journal of Non-Timber Forest Products, ISSN: 0971-9415, (2016) 23(4) 181-189.
5. Evaluation of Antioxidant Activity of Rhizome Extract of *Paris polyphylla* Smith, J Sati, **V Laxmi**, D Chand, MC Nautiyal, Journal of Non-Timber Forest Products, ISSN: 0971-9415, (2017), 24(3) 147-151.
6. Effect of Chilling treatment and different growth media on seed germination and seedling growth performance of *Picrorhiza kurrooa*: An endangered medicinal herb. D Chand, MC Nautiyal, **V Laxmi**, J Sati, Journal of Non-Timber Forest Products, ISBN: 09719415, (2018), 25 (1) 57-62.

7. Phenological variations of Primary biochemicals in male and female plants of *Hippophae salicifolia* D. Don. **VL Trivedi**, D C Attri, J Sati, MC Nautiyal, Journal of Plant Biochemistry and Biotechnology, ISSN: 0974-1275, 0971-7811, (2020), 29: 225–235. (IF- 1.9)
8. In vitro propagation of male and female *Hippophae salicifolia* D. Don. **VL Trivedi**, MC Nautiyal, J Sati, DC Attri, In Vitro Cellular and Developmental Biology- Plant, ISSN: 0971-7811, (2020), 56: 98–110.(IF- 2.1)
9. Antioxidant enzyme activities in male and female plants of *Hippophae salicifolia* D. Don in different pheno-phases, **V L Trivedi**, MC Nautiyal, J Sati, DC Attri, Acta Physiologiae Plantarum, ISSN: 1861-1664, (2020), 42 (64), DOI: <https://doi.org/10.1007/s11738-020-03049-5>.(IF-2.8)
10. HPTLC Fingerprinting of Cultivated *Picrorhiza kurrooa* Accessions in Uttarakhand, Western Himalaya. Dharam Chand Attri, Mohan Chandra Nautiyal, Vinod Kumar Bisht, Bhagwati Prasad Nautiyal, Amit Bahukhandi, **Vijaylaxmi Trivedi**, Jyoti Sati. Proceedings of the National Academy of Sciences, India Section B: Biological Science
11. Seabuckthorn (*H. salicifolia*) leaves a good source of natural antioxidant compounds. **Vijay Laxmi Trivedi**, Dharam Chand Attri, Amit Bahukhandi, Mohan Chandra Nautiyal, Jyoti Sati. has been accepted for publication in National Academy Science Letters'.(IF-1.0)
12. Challenges and prospects for the in-vitro conservation of plants having anticarcinogenic potential in the Western Himalaya, India. Sati, P., Chauhan, M., **Trivedi, V.L.** et al. Plant Cell Tissue Organ Cult (2022). <https://doi.org/10.1007/s11240-022-02409-y> (IF-2.6)
13. Poisonous Plants of the Indian Himalaya: An Overview. Abhishek Jamloki, **Vijay Laxmi Trivedi**, M.C. Nautiyal, Natália Cruz-Martins, Prabhakar Semwal. Metabolites 12(6):540(IF-3.7)
14. Impact of Polygonum polystachyum Wall. Ex Meisn. (Himalayan knotweed) infestation on physio-biochemical parameters of the *Picrorhiza kurroa* Royle. **Trivedi, V.L.**, Chandra, S. & Nautiyal, M.C. Acta Physiol Plant 44, 107 (2022). <https://doi.org/10.1007/s11738-022-03446> (IF-2.8)
15. Impact of silver nitrate on the survival and regeneration potential of explants of *Hippophae salicifolia* (Seabuckthorn) D. Don. **Vijay Laxmi Trivedi**, Prabhakar, Semwal, Sudeep Chandra, M.C. Nautiyal, Dharam Chand Attri, Yashaswi Singh (2022). Materials Today: Proceedings. <https://doi.org/10.1016/j.matpr.2022.08.111> (IF-3.1)
16. Anti-cancer properties of boswellic acids: mechanism of action as anti-cancerous agent. **Trivedi Vijay Laxmi**, Soni Ruchi, Dhyani Praveen, Sati Priyanka, Tejada Silvia, Sureda Antoni, Setzer William N., Faizal Abdull Razis Ahmad, Modu Babagana, Butnariu Monica, Sharifi-Rad Javad (2023). Frontiers in Pharmacology, 4: DOI=10.3389/fphar.2023.1187181 (IF-4.8)
17. Global research progress on reproductive behavior and ethnobotany of the Saussurea genus: Literature review-based- bibliometric analysis (2023). Singh, Pooja & Gargi, Baby & **Trivedi, Vijaylaxmi** & Thapliyal, Ashish & Semwal, Prabhakar. Ethnobotany Research and Application.
18. Climate-induced changes in essential oil production and terpene composition in alpine aromatic plants, Pradeep Dobhal, Vijay Kant Purohit, Sudeep Chandra, Sandeep Rawat, P. Prasad, Ujjwal Bhandari, **Vijay Laxmi Trivedi**, M.C. Nautiyal, Plant Stress, Volume 12, 2024, 100445, ISSN

2667-064X, <https://doi.org/10.1016/j.stress.2024.100445>. (IF-6.9)

19. Current Evidence on Molecular Mechanisms of Andrographolide in Cancer Dharam Chand Attri, Praveen Dhyani, **Vijay Laxmi Trivedi**, Eshita Sharma, Manshuk Ibrayeva, Arvind Jantwal, Priyanka Sati, Daniela Calina and Javad Sharifi-Rad* Published on: 11 June, 2024 DOI: 10.2174/0109298673295496240530100728.
20. The current trends and research progress globally in the plant tissue culture: 90 years of investigation. Negi, S., Singh, P., **Trivedi, V.L.** et al. Plant Cell Tiss Organ Cult 157, 73 (2024). <https://doi.org/10.1007/s11240-024-02788-4>. (IF-2.6)
21. Attri, D.C., Bahukhandi, A., **Trivedi, V.** et al. Variation in the Essential Oil Composition in Leaves (Fresh & Dried) of *Cinnamomum tamala* (Indian Bay Leaf) Cultivated in Western Himalaya. Natl. Acad. Sci. Lett. 47, 701–704 (2024). <https://doi.org/10.1007/s40009-024-01416-1> (IF-1.0)
22. Environmental factors shaping alpine plant adaptations. Pallavi Sati, Sachin Dimri, **Vijay Laxmi Trivedi**, and M C Nautiyal. International Journal of Agricultural and Applied Sciences, June 2024, 5(1): 68-75 <https://www.agetds.com/ijaas> ISSN: 2582-8053. <https://doi.org/10.52804/ijaas2024.5110>.
23. Global environmental change mediated response of wetland plants: Evidence from past decades. Pallavi Sati, Sudeep Semwal, Vaishali Chandola, **Vijay Laxmi Trivedi**, Vijay Kant Purohit, M.C. Nautiyal. <https://doi.org/10.1016/j.scitotenv.2025.178668>, Science of the Total Environment. (IF-8.0)
24. Drying-induced changes in terpenoid composition in *Rhododendron anthopogon* leaves. **Vijay Laxmi Trivedi**, Upendra Singh, Pallavi Sati, Ujjwal Bhandari, Dharam Chand Attri, Hema Lohani. <https://doi.org/10.1016/j.bse.2025.105016>, Systematics and Ecology. (IF-2.0)
25. Morphological, biochemical, and anatomical variations in *Allium stracheyi* (Baker) along an elevational gradient. Akanksha Bisht, Shailesh Thakur, **Vijay Laxmi Trivedi**, Prabhakar Semwal & M. C. Nautiyal. Volume 22, pages 1600–1616, (2025), <https://doi.org/10.1007/s11629-024-8882-7>, Journal of Mountain Science. (IF-2.7).
26. Impact of circadian rhythm and seasonal variability on the essential oil of *Allium stracheyi* Baker from Uttarakhand, Himalaya. Baby Gargi, Prabhakar Semwal, Durgesh Kumar Jaiswal, Sakshi Painuli, **Vijay Laxmi Trivedi**, Vishal Tripathi, Nishant Rai, Food Chemistry: X, Volume 29, 2025, 102720, <https://doi.org/10.1016/j.fochx.2025.102720>.
27. Bisht, A., Bahukhandi, A., **Trivedi, V.L. et al.** Gender-Based Variation in the Essential Oil Composition of *Zanthoxylum armatum* DC. Across Different Populations in Uttarakhand. Natl. Acad. Sci. Lett. (2026). <https://doi.org/10.1007/s40009-025-01925-7>
28. Seasonal rhythm and altitudinal variation of the physio-biochemical adaptation in *Juniperus communis* under the alpine and subalpine zones of Western Himalaya. Nautiyal, P., Jamloki, A., **Trivedi, V.L. et al.** Plant Biosyst **160**, 43 (2026). <https://doi.org/10.1007/s44473-026-00073-0>
29. Drying method-dependent metabolomic shifts in *Withania somnifera*, Pallavi Nautiyal, Sachin Dimri, Anjali Mamgain, **Vijaylaxmi Trivedi**, Vijay Kant Purohit, M.C. Nautiyal, Biochemical Systematics and Ecology, Volume 127, 2026, 105245, ISSN 0305-1978, <https://doi.org/10.1016/j.bse.2026.105245>.

30. Physiological limits and adaptive responses of the Wetland species *Acorus calamus* (L.) to gradient drought stress: Insights from photosystem II dynamics and oxidative damage. Pallavi Nautiyal, Athira Raveendran, **Vijay Laxmi Trivedi**, Arvind Singh Farswan, M.C. Nautiyal. *Plant Science*, Volume 367, 2026, 113113, <https://doi.org/10.1016/j.plantsci.2026.113113>.
31. Cost-effective plant micropropagation: constraints, trade-offs, and challenges in scaling. Nautiyal, P., Dimri, S., **Trivedi, V.L. et al.** *Plant Cell Tiss Organ Cult* **165**, 29 (2026). <https://doi.org/10.1007/s11240-026-03445-8>
32. Traditional medicinal plants used in Rudraprayag district, Uttarakhand, India: documentation of knowledge in peril. Jamloki, A., Singh, K., **Trivedi, V.L. et al.** *Plant Biosyst* **160**, 139 (2026). <https://doi.org/10.1007/s44473-026-00131-7>

PUBLICATION IN EDITED BOOKS

1. **Vijay Laxmi Trivedi**, Dharam Chand, Jyoti Sati and M. C. Nautiyal (2018) *Hippophae salicifolia* (Seabuckthorn): Source of Economic Development in Higher Himalayan Region. In: Dynamics of Socio-Economic Development" Bharti Publication, New Delhi ISBN: 978-93-
2. Dharam Chand, **Vijay Laxmi**, Jyoti Sati and M. C. Nautiyal (2018) Policies & Schemes of Medicinal Plants Farming: An Innovative Effort towards Livelihood Security in Indian Himalayan Region. In: Dynamics of Socio-Economic Development" Bharti Publication, New Delhi ISBN: 978-93-86608-31-4. P. Kewlani,
3. Microenvironments, Microhabitats, Micro reserves: Rooms of Hope for Conservation in Climate Change Persistence. **V L Trivedi**, DC Attri, MC Nautiyal. In: Environment Conservation, Bharti Publication, New Delhi ISBN -978-81-949793-9-5 (2021)
4. Antioxidant Properties of Alpine Plant. **V L Trivedi** and M C Nautiyal (March 7th 2021). [Online First], Intech Open, DOI: 10.5772/intechopen.96735. Available from: <https://www.intechopen.com/online-first/antioxidant-properties-of-alpine-plant>.
5. Bioactivity Potential and Pharmacological Efficiency of Piper betle L. **Vijay Laxmi Trivedi**, Dharam Chand Attri, M C Nautiyal. In book: Phytochemical composition and pharmacy of medicinal plants. Publisher: Apple Academic Press.
6. Bioactive Constituents and Pharmacological Activity of *Citrullus colocynthis* (L.) Schrad, Dharam Chand Attri, Deepika Tripathi, **Vijay Laxmi Trivedi**, Indra D. Bhatt, and Mohan Chandra Nautiyal. In book: Phytochemical composition and pharmacy of medicinal plants. Publisher: Apple Academic Press
7. Bioactive Compounds and Biological Activities of Nepal Yam (*Dioscorea deltoidea* wall. Ex Griseb.). Sati, P., **Trivedi, V.L.** Semwal, P., Nautiyal, M.C. (2023). In: Murthy, H.N., Paek, K.Y., Park, SY. (eds) Bioactive Compounds in the Storage Organs of Plants.
8. Phytochemical and Pharmacological Profile of *Berginia ciliata* (Haw.) Stern. Akanksha Bisht, **Vijay Laxmi Trivedi**, Aditi Bisht, Dharam Chand Attri, M.C. Nautiyal. (2025) In: Biodiversity

of the Himalaya. DOI: [10.1201/9781774919934-9](https://doi.org/10.1201/9781774919934-9). Publisher: Apple Academic Press

9. Wild Edible Plants of North Western Indian Himalaya: Exploring the Culinary Heritage and Nutritional Potential. Dharam Chand Attri, **Vijay Laxmi Trivedi**, Pallavi Sati, M.C. Nautiyal (2025). In: Biodiversity of the Himalaya. DOI: [10.1201/9781774919934-3](https://doi.org/10.1201/9781774919934-3). Publisher: Apple Academic Press
10. Non-Native Invasive and Native Range Shifter Plant Species in Alpine Himalaya: A Major Threat to Biodiversity of Alpine Meadows. **Vijay Laxmi Trivedi**, Pallavi Sati, Akanksha Bisht, Dharam Chand Attri, M.C. Nautiyal In: Biodiversity of the Himalaya. DOI: [10.1201/9781774919934-2](https://doi.org/10.1201/9781774919934-2). Publisher: Apple Academic Press
11. Biotechnological interventions and propagation strategies of endangered medicinal plants of the Indian Himalaya: conservation and sustainable utilization. Pallavi Sati, **Vijaylaxmi Trivedi**, Dharam C. Attri, M. C. Nautiyal. In book: Plant Tissue Culture Technology (2025). DOI: [10.1201/9781779643445-11](https://doi.org/10.1201/9781779643445-11) Publisher: Taylor & Francis.
12. Conservation and Cultivation of Medicinal and Aromatic Plants in the High Altitudes of Uttarakhand, India. Vijay Kant Purohit, Jaidev Chauhan, Pradeep Dobhal, Sudeep Chandra, Babita Patni, **Vijay Laxmi Trivedi**, P. C. Nautiyal & M. C. Nautiyal. In: Chandra, S., Lata, H. (eds) High Altitude Medicinal Plants. Springer, Cham. https://doi.org/10.1007/978-3-031-99406-7_17
13. Change and Physiological Adaptations in Alpine Medicinal Plants. Chandra, S., **Trivedi, V.**, Purohit, V.K., Nautiyal, M.C., Chandra, S. (2026). Climatic In: Chandra, S., Lata, H. (eds) High Altitude Medicinal Plants. Springer, Cham. https://doi.org/10.1007/978-3-031-99406-7_2
14. Pharmaceutical Potentials of Alpine Plants: A Special Reference to Their Antioxidant Properties. **Trivedi, V.L.**, Sati, P., Dobhal, P., Bisht, A., Nautiyal, M.C. (2026). In: Chandra, S., Lata, H. (eds) High Altitude Medicinal Plants. Springer, Cham. https://doi.org/10.1007/978-3-031-99406-7_7

RESEARCH PROJECTS HANDLED/Handling AS PRINCIPAL INVESTIGATOR (PI) AND CO-PRINCIPAL INVESTIGATOR (CO-PI) (2020 - ONGOING):

- ✦ Production of Quality planting material, cultivation and market linkages of four commercially important plants of Himalayan region (*Aconitum heterophyllum*, *Gaultheria fragrantissima*, *Nardostachys jatamansi* & *Swertia chirayita*) (2022 to 2026)- Funded by DBT- **PI**.
- ✦ Mapping, Niche Modeling and Assessment of Conservation Status of the MAPs in Rudraprayag Forest Division)-Funded by Forest Department Uttarakhand (2023 to 2025)- **PI**.
- ✦ Characterizing Patterns and Processes of Alpine Ecosystem in Indian Himalaya with Special Emphasis to Garhwal, Uttarakhand. Funded by ISRO SAC – **PI for 1 Year (2023 to 2024)**
- ✦ Assessment of nutraceuticals and chemical composition of the Himalayan spice “Allium “and their micropropagation for sustainable utilization- Funded by Uttarakhand Council of Biotechnology (2022 to 2025)- **COPI**
- ✦ Establishment of Seed Production/Germplasm Center (SG/PC) for augment supply of Quality

Planting Material/Seeds for the producers for cultivation/plantation of medicinal plant in Himalayan Region- Funded by National Medicinal Plant Board (2025 to 2028)- **COPI**

- ✦ Field genebank: A sustainable tool for preservation/conservation of threatened high altitude medicinal plant species- Funded by National Medicinal Plant Board (2025 to 2028) - **COPI**
- ✦ Assessment of socio-ecological vulnerabilities and community responses in climate-sensitive higher Himalayan rural ecosystem of the Uttarakhand Himalaya- Funded by DST (2025 to 2028)- **COPI**
- ✦ Rehabilitation of Degraded Alpine Grasslands using Ecosystem-based Solutions for Sustaining Ecosystem Services and Ecological Resilience across Western Himalaya- Funded by NMHS (2026-2029) -**COPI**

Administrative responsibilities:

1. Assistant Dean Student Welfare, HNB Garhwal University (A Central University) Srinagar Garhwal from the year 2023 to March 2025).



Dr. Vijay Laxmi, Ph.D., NET.
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