

Curriculum Vitae

Name: Dr. Amit Chawla
Father's Name: Sh. G. L. Chawla
Date of Birth: 21/07/1976
Institute: CSIR-Institute of Himalayan Bioresource Technology
Department: Environmental Technology Division
Address: Holta, Palampur (H.P.) 176061
Email: amit.chawla@csir.res.in; amitchawla21@gmail.com
Phone: 9418076217 / 01894233339 Ext.437
Current Position Senior Principal Scientist & Professor, AcSIR
Administrative Responsibility: Scientist-In-charge, Centre for High Altitude Biology, Tandi, District Lahaul and Spiti, H.P.

(II) Education Details:

Degree	Institution & Location	Year	Major Subject
Ph.D. Botany	Guru Nanak Dev University, Amritsar, India	2009	Vegetation Ecology & Remote Sensing
PGDCA	Indira Gandhi National Open University, N. Delhi	2006	Computer Applications
M.Sc. (H.S.) Botany	Guru Nanak Dev University, Amritsar, India	2000	Botany & Remote Sensing
B.Sc. (H.S.) Botany	Guru Nanak Dev University, Amritsar, India	1998	Botany & Seed Technology

Ph.D. Dissertation: Landscape Ecology of Kinnaur Region of Western Himalaya Using Remote Sensing (Supervisor: Prof. Dr. A.K. Thukral, Ex-Professor, Environmental Science)

(III) Research Focus & Expertise: I primarily study the High Altitude Vegetation - Characterizing biodiversity patterns, conservation of threatened plants, understanding adaptation strategies, bioprospection, and assessing climate change impacts, & ecological restoration of degraded areas.
Technical Expertise: Ecological Modelling, Remote Sensing, Thermography, Ecological Niche Modelling, AI & ML, Statistical Multivariate Analysis in R, Eco-physiology & Functional Ecology

(IV) Employment Details (Post Ph.D.):

Sl No.	Institution Place	Position	From(Date)	To (date)
1	CSIR-IHBT, Palampur, HP	Scientist F	28/04/2024	Till date
2	CSIR-IHBT, Palampur, HP	Principal Scientist	28/04/2019	27/04/2024
3	CSIR-IHBT, Palampur, HP	Senior Scientist	28/04/2015	27/04/2019
4	CSIR-IHBT, Palampur, HP	Scientist	28/04/2011	27/04/2015
5	-Do-	Scientist Fellow	29/06/2009	27/04/2011
6	Department of Biosciences, HPU, Shimla	Dr. D.S. Kothari Post Doc Fellow	20/02/2009	27/06/2009

(V) Honours/Awards

- Received **State Level Recognition for Excellent Contributions in Conservation of Biodiversity** for the year 2024-25; by HP State Biodiversity Board, Shimla
- Received **Distinguished Alumnus Award 2025** by Guru Nanak Dev University, Amritsar on 10 Nov 2025
- Awarded **Dr. D.S. Kothari Post-Doctoral Fellowship** by University Grants Commission (UGC), New Delhi, India on 24th Oct, 2008.

- Successfully competed in 'National Eligibility Test' conducted by CSIR-UGC in year 2000 and 2001.

(VI) Publications: (Annexure 1)

Total Number of Research Publications in referred journals :	50
Total Number of Book Chapters	: 04
Books/Compendiums	: 01
Conference Proceedings	: 02

Recent Publications (last 05 years):

1. Singh, L., Bharti, H., Mehta, N., Thakur, D., Panatu, A., Randhawa, S.S. and Chawla, A.* 2026. **Simulating the net primary productivity of *Betula utilis*-dominated timberline forests under the future climate scenarios in western Himalaya.** *Ecological Modelling* <https://doi.org/10.1016/j.ecolmodel.2026.111794> IF3.5
2. Ram, B. and Chawla, A*. 2026. **Estimation of carbon pools and fluxes reveals higher carbon sequestration potential for evergreen shrubs compared to open herbaceous communities in the Alpine region of Western Himalaya.** *Environmental Monitoring and Assessment* (2026) 198:471. <https://doi.org/10.1007/s10661-026-15266-5> IF 3.0
3. Ram, B. and Chawla, A*. 2026. **Understanding the carbon-growth trade-off in the Himalayan shrubline forming shrub species: Insights from non-structural carbohydrates dynamics.** *Plant Physiology Reports* <https://doi.org/10.1007/s40502-026-00941-z>.
4. Hopak, N.E. & Chawla, A*. 2025. **Key eco-physiological leaf traits suggest a moderate to high level of thermal tolerance of alpine plants in the Western Himalaya.** *Front. Plant Physiol.* 3:1652412. <https://doi.org/10.3389/fphgy.2025.1652412>
5. Sharma, M.K. & Chawla, A*. 2025. **Elevation-dependent effects of early snowmelt on species and functional diversity in Himalayan alpine plant communities.** *Climatic Change* 178:180. <https://doi.org/10.1007/s10584-025-04006-2> IF 5.2.
6. Sharma, M.K. & Chawla, A*. 2025. **Alpine plant species advance green-up but delay leaf senescence in response to experimental early snowmelt.** *Plant Biology* 178:180. <https://doi.org/10.1111/plb.70121> IF 3.6.
7. Thakur, D. & Chawla, A.* 2025. **Aspect outweighs elevation in influencing plant functioning at high elevations of Himalaya** *Plant Ecology* <https://doi.org/10.1007/s11258-025-01567-1> IF1.7
8. Ram, B. and Chawla, A*. 2024. **Shrubs exhibit competitive interactions with herbaceous plants and shape community assemblage and functional composition in the alpine western Himalaya.** *Journal of Vegetation Science*, 35, e13269. DOI: <https://doi.org/10.1111/jvs.13269> IF 2.8.
9. Bhatt, A. and Chawla, A*. 2024. **Beekeeping with local resources by Pangwals: a high altitude tribal community of Western Himalaya.** *Beeworld* (Accepted). <https://doi.org/10.1080/0005772X.2025.2538985>
10. Bhatt, A. and Chawla, A*. 2024. **Distribution of plant species along the elevation gradient in Pangri, a high altitude and remote eco-region in Western Himalaya, India.** *Journal of Mountain Science* 21(11): 3739-3753. <https://doi.org/10.1007/s11629-023-8258-4>
11. Rajlaxmi, A., Chawla, A. and Kumar, M*. 2024. **Predicting the current and future potential habitat of *Taxus* species over Indian Himalayan Region using MaxEnt model.** *Tropical Ecology*, <https://doi.org/10.1007/s42965-024-00365-6>
12. Mehta, N. and Chawla, A*. 2024. **Eco-physiological trait variation in widely occurring species of Western Himalaya along elevational gradients reveals their high adaptive potential in stressful conditions.** *Photosynthesis Research* 159:29-59. <https://doi.org/10.1007/s11120-023-01071-5> IF3.7.
13. Sharma, M.K., Hopak, E. and Chawla, A*. 2024. **Alpine plant species converge towards adopting elevation-specific resource-acquisition strategy in response to experimental early snow-melting.** *Science of the Total Environment* 907 (2024):167906. IF 9.8
14. Sharma, M.K. and Chawla, A.* 2024. **Aftermath of damage: Impact of short-term climatic extreme event on alpine plant communities.** *ENVIS Bulletin on Himalayan Ecology*, Vol. 31.

15. Gulati, A.*, Thakur, R., ...Chawla, A., ...Chauhan, P.S. 2024. **Broad-spectrum PGPR strain of *Halotalea alkalilenta* from the Cold deserts of the Indian trans-himalayas showing stress-tolerance to environmental factors and multiple growth- promoting traits corroborated by genomic analysis.** *Plant Growth Regulation* (2024) 104:319–330. IF3.5
16. Gulati, A.*, Thakur, R....Chawla, A.,...Chauhan, P.S., Nautiyal, C.S. 2024. **Fostering climate-resilient agriculture with ACC-deaminase producing rhizobacterial biostimulants from the cold deserts of the Indian Himalayas.** *Journal of Environmental Management* 371 (2024) 123075. IF8.0
17. Choudhary, A., Shekhawat, D., Pathania, J., Sita, K., Sharma, S., Chawla, A. and Jaiswal, V*. 2024. **Exploring DNA barcode for accurate identification of threatened *Aconitum* L. species from Western Himalaya.** *Molecular Biology Reports*. 51,75. IF2.8.
18. Verma, A., Chawla, A., Singh, C.P. and Kumar, A*. 2023 **Compositional change in vascular plant diversity in the alpine mountainous region of Indian north-western Himalaya indicate effects of warming.** *Biodiversity and Conservation* 32:2425-2449 IF4.296.
19. Sharma, M.K., Ram, B. and Chawla, A*. 2023. **Ensemble modelling under multiple climate change scenarios predicts reduction in highly suitable range of habitats of *Dactylorhiza hatagirea* (D. Don) Soo in Himachal Pradesh, western Himalaya.** *South African Journal of Botany* 154:203-218. IF3.1.
20. Kumari, V., Joshi, R., Chawla, A. and Kumar, D*. 2022. **Metabolome analysis of *Dactylorhiza hatagirea* (D. Don) Soo reveals a significant antioxidant and nutritional potential of its tubers.** *South African Journal of Botany*, 150:431-442. IF3.1.
21. Rathore, N., Kumar, P., Mehta, N., Swarnkar, M.K., Shankar, R*. and Chawla, A*. 2022. **Time-series RNA-Seq transcriptome profiling reveals novel insights about cold acclimation and de-acclimation processes in an evergreen shrub of high altitude.** *Scientific Reports* 12:1553.
22. Kumar*, R., Joshi, R., Kumar, R., Srivatsan, V., Satyakam, Chawla, A., Patial V. and Kumar, S. 2022. **Nutritional quality evaluation and proteome profile of forage species of Western Himalaya.** *Grassland Science*, pp1-12. DOI: 10.1111/grs.12357. IF1.44
23. Rathore, N., Thakur, D., Kumar, D., Chawla, A.* & Kumar, S. 2021. **Time-series eco-metabolomics reveals extensive reshuffling in metabolome during transition from cold acclimation to de-acclimation in an alpine shrub.** *Physiologia Plantarum* 173(4):1824-1840. IF5.081
24. Singh, L., Thakur, D., Sharma, M.K. and Chawla, A*. 2021. **Dynamics of leaf litter decomposition in the timberline zone of western Himalaya.** 111 (2021) 103715. IF1.93.
25. Thakur, D., Rathore, N., Sharma, M.K., Parkash, O. and Chawla, A*. 2021. **Identification of ecological factors affecting the occurrence and abundance of *Dactylorhiza hatagirea* (D. Don) Soo in the Himalaya.** *Journal of Applied Research on Medicinal and Aromatic Plants*. 20 (2021) 100286.

(VII) Research Project(s): As PI: 13; As Co-PI:12

A list of recent research projects executed is provided below: -

SN	Title of Project	Funding Agency	From Date	To Date	Approved Cost (₹ lakhs)
1	Rehabilitation of Degraded Alpine Grasslands using Ecosystem-based Solutions for Sustaining Ecosystem Services and Ecological Resilience across Western Himalaya (as Co-PI) ; a Network Project coordinated by Kashmir University, J&K	National Mission on Himalayan Studies (NMHS)	Sanctioned (for 03 years)	2026-2029	34.182 (IHBT component)
2	Assessing the Impact of Climate Change on Ecosystem Services Provided by Sub-Alpine Forests	DEST&CC, Shimla	Sanctioned (for 02 years)	2026-2028 (02 years)	Rs.8.14

	in Tribal Areas of Himachal Pradesh (as PI)				
3	Study of ecosystem responses to early snow melting in western Himalayan alpine environment (as PI)	ANRF (Core Research Grant)	30.06.2023	29.06.2026 (03 years)	Rs.38.34302
4	Elucidation of plant responses to high UV radiation and low temperature stress at high altitudes in <i>Juniperus polycarpus</i> K. Koch, a highly adapted woody evergreen species of Trans-Himalaya (as PI)	ANRF Special Grant: Organisms in extreme environment	25.05.2023	21.05.2026 (03 years)	Rs.44.50464
5	Collection, conservation and characterization of <i>Fritillaria cirrhosa</i> germplasm (as Co-PI)	NMPB	10.06.2024	09.06.2027 (03 years)	Rs.32.765
6	Preparation and updating People's Biodiversity Register (PBR) for selected Biodiversity Management Committees (BMCs) of H.P. (as PI)	HPSBB, Shimla	02.01.2024	30.06.2025 (1.5 years)	Rs.15.76
7	CSIR Jigyasa 2.0 Programme: Virtual Lab Integration (as Co-PI)	CSIR	01.04.2022	31.03.2026 (04 years)	Rs.188.82
8	Assessment of Carrying Capacity of Eco-sensitive Zone (ESZ) of Renukaji Wildlife Sanctuary, District Sirmaur, Himachal Pradesh (as PI)	DEST&CC, Shimla	30.10.2023	31.01.2025	Rs.13.50173
9	Conservation of threatened plant species of India (as PI)	CSIR	2020	2023 (03 years)	Rs.299.72
10	Exploring the role of reactive oxygen and dicarbonyl species detoxification in adaptation of <i>Picrorhiza kurroa</i> to cold and high altitudes (as Co-PI)	CSIR-EMR Grant	01/07/2020	31/12/2023 (03 years)	Rs.35.0
11	Preparation of People's Biodiversity Register (PBR) at Panchayat level for Himachal Pradesh (as PI)	HPSBB	2020	2022 (03 years) Extension applied for	Rs.17.0
12	Preparation of People's Biodiversity Register (PBR) of seven blocks of Kangra District, Himachal Pradesh (funded by Himachal Pradesh State Biodiversity Board (HPSBB), Shimla) (as PI)	HPSBB	2020	2023 (03 years) Extension applied for	Rs.9.1
13	Conservation and sustainable resource generation of high altitude bioresources at CSIR-Centre for High Altitude Biology (as PI)	CSIR	04/01/2018	03/31/2020 (02 years)	Rs.846.56
14	Understanding the nature of alpine timberlines of Himalaya: integrating ecological and	National Mission on	04/01/2018	12/31/2021 (3.5 years)	Rs.48.4522

	scenario studies for assessing the impact of climate change (PI)	Himalayan Studies			
15	Characterisation patterns and processes of Alpine Ecosystem in Indian Himalaya with special emphasis to HP (As Co-PI)	SAC (ISRO), Ahmedabad	01/05/2019	30/04/2023 (03 years)	Rs.25.66
16	CSIR Mission Phytopharma Project Vertical C, "Captive cultivation of selected high value rare, engendered and threatened (RET) medicinal plant species" (as PI)	CSIR	01/10/2017	31/03/2020 (03 years)	Rs.1060.27
17	CSIR Mission Aroma Project (as Co-PI)	CSIR	01/10/2017	31/03/2020 (03 years)	Rs.1555
18	Ex-situ conservation and development of gene bank of Commercially important threatened medicinal plants in high altitude areas, HP (Co-PI)	NMHS	10/01/2019	30/09/2022 (03 years)	Rs.68.6176
19	Two Short duration projects: (i) Sustainable harvest and value addition protocols for 5 bulk traded and high value medicinal plant species (ii) Trade chain, trade pattern and economic valuation of 15 RET valuable medicinal plant species (as PI)	HIMCOSTE Shimla	08/08/2018	31/12/2019	Rs.7.0

(VIII) Students supervised: Ph.D.: 08 (completed); 03 (In-Process)

Trainings provided: M.Sc. Dissertations: 12; B.Tech. Trainings: 06

Supervised and trained ~20 Project Fellows till date

(IX) Professional Bodies Memberships:

- Life Member, National Environmental Science Academy
- Life Member, The Society for Integrative Biosciences
- Life Member, Indian Remote Sensing Society
- Member, International Society of Tropical Ecology

(X) Teaching:

- Teaching Ph.D. Courses in Academy of Scientific and Innovative Research (AcSIR) since 2014: (1) Biostatistics (2) Research Methodology (3) Plant Conservation and Reproductive Biology (4) Bioresources and Biodiversity (5) Remote Sensing & GIS
- Worked as a Lecturer, Botany at Doaba College, Jalandhar (PB), India for the time period: 2nd Aug, 2001 to 20th Feb, 2002, on *ad hoc* basis.
- Worked as a Lecturer, Botany at Govt. Degree College, Ghumarwin, Distt. Bilaspur, (H.P.), India for the time period: 14th Nov. 2000 to 28th Feb. 2001, on *ad hoc* basis.

(XI) Major Events Organized/Coordinated (Last 05 years):

- Coordinated **International Workshop entitled "High Elevation Plant Adaptation in a Changing Climate (HEPACC)**, fully sponsored by European Molecular Biology Organization (EMBO), Germany for Euros 51,500 held at CSIR-IHBT from 25-28 Feb 2025.
- Organised SERB (Now ANRF) sponsored national level **"Hands-on Training on Plant Physiological Techniques: Two Days Workshop for College Teachers"** organized at CSIR-IHBT during 02-03 June 2025.

- Organised meeting of the **DST-SERB's PAC-Mathematical Sciences** as Convener from 26-27 Oct 2023.
- Coordinated a virtual Industry-Academia connect (**iConnect**) event which was organized on 22/07/22 from 02.00-4.00 PM. The event was entitled "**Climate change and its impacts on various sectors and ecosystems (iCEN-58)**". This was jointly coordinated by CSIR-IHBT and IITM, Pune (Co-coordinator: Dr. Sachin D. Ghude). Leading Researchers (Dr. M.K. Behera, IIT Kharagpur and Dr. Mukhopadhyay, IITM, Pune) and Industry Stalwarts (Sh. Vikas Aswale, GM, Suzlon Energy; Sh. Abhinav Saxena, Dy GM, Adani Green Energy Ltd.; Sh. Ronak Sutaria, Respirer Living Sciences, Sh. Yogesh Patil, CEO, Skymet etc.) took part in a discussion on the requirements of Industry and the expectations from climate change research in different sectors and ecosystems.
- Coordinated a training programme entitled "**Comprehensive training on sustainable harvesting, processing and sustainable cultivation of Medicinal and Aromatic Plants (MAPs) in the high altitude region**" for farmers of tribal region of Lahaul and Spiti organized on 28-29 September 2022. This programme was funded by Forest Department, Lahaul Forest Division under the SECURE Himalaya project.
- Coordinated the **visit of Dr. John D. All, Fulbright Specialist to CSIR-IHBT, CeHAB** and to our LTER sites in high altitude region (11-28 May 2022). This Project was approved by United States – India Educational Foundation (USIEF) for Fulbright Specialist Program to host to host Fulbright Specialist Prof. John David All (Project ID: FSP-P005141, letter dated 03/01/2020).
- Participated as Expert and Panel Member (by invitation) in an online live programme **Science Talk** organized by India Science in collaboration with Vigyan Prasar for popularization of science in India, on 01/10/2021.
- Coordinator of **Nayudamma Memorial Cricket Tournament 2019**, a national level invitational cricket tournament organized by CSIR for various ministries and departments with scientific research focus

(XII) Membership in organizational / national / international committees

- Member, Search-cum-Selection Committee for SERB-POWER Grant (vide letter no. SR/S2/POWER-Grant/2021; Dated 17Jan2023) w.e.f. from 17-Jan-2023 for 03 years
- Member, Board of Studies, Department of Botany, Central University of Punjab, Bathinda w.e.f. 18th March 2025 for 02 years
- Subject Expert, Board of Studies in Botanical & Environmental Sciences (UG), Guru Nanak Dev University, Amritsar (PB) from 01/07/2024 to 30/06/2026.
- Member, Standing publications, ethics and scientific vigilance committee (SEC).
- Member, CSIR-Sports Promotion Board, CSIR (For planning of events and policy/guidelines making) 2018-22.