

RESUME



DR. VINOD KUMAR

M.Sc., Ph.D., F.A.N.S.F.



**Agroecology and Pollution Research Laboratory,
Department of Zoology and Environmental Science,
Gurukula Kangri (Deemed to be University) Haridwar-249404, INDIA**

SUMMARY OF RESUME OF DR. VINOD KUMAR

Particular	Information
Official Address	Dr. Vinod Kumar Senior Assistant Professor (Stage 3) Department of Zoology and Environmental Science Gurukula Kangri (Deemed to be University) Haridwar-249404 (Uttarakhand), India
Academic Experience	12 Years
Research Experience	16 Years
Research Area	<ul style="list-style-type: none"> Agroecology Environmental Pollution Research Wastewater Management Bioremediation and Energy Studies
Research Guidance (P.G. Dissertation)	24
Research Guidance (Ph.D. Awarded)	05
Research Guidance (Ph.D. Registered)	04
Research Papers Published	136
Research Papers Published (Scopus/WoS, UGC Care Listed Journals)	83
Book Chapters Published	16
Books Edited	05
Cumulative Impact Factor (Clarivate Analytics)	226.914
Scopus Citation	1225
Google Citation	2939
h-Index (Scopus)	22
h-Index (Google Scholar)	29
Research Project (Ongoing)	01
Seminar/Conferences Attended	68
Seminar/Conferences Organized	27
Orientation/Refresher Course/Research Methodology workshop Attended	01 (OP), 03 (RC) and 02 Research Methodology workshops
Invited Talk	05
Member of Scientific Societies	15
Academic duties/Responsibilities	<ul style="list-style-type: none"> Deputy Director, Research and Development Cell Departmental Co-coordinator, Swayam Course Co-coordinator, Students Welfare Council Co-Ordinator of Bio-composing Unit Member Criteria-in-Charge, IQAC Member of Proctorial Board Member of Eco-Club Member of UG, PG, PhD Admission Committee
Personal Web Links	Scopus: https://www.scopus.com/authid/detail.uri?authorId=57200152850 Mendeley: https://www.mendeley.com/profiles/vinod-kumar97/ ResearchGate: https://www.researchgate.net/profile/Vinod_Kumar381 Google Scholar: https://scholar.google.com/citations?user=kG2jvkUAAAAJ LinkedIn: https://www.linkedin.com/in/dr-v-k-sorwal-69456090/ ORCID: http://orcid.org/0000-0002-7197-7666

DETAILED RESUME

Dr. Vinod Kumar

M.Sc., Ph.D., F.A.N.S.F.

Assistant Professor (Stage 3)

Department of Zoology and Environmental Science

Gurukula Kangri (Deemed to be University)

Haridwar-249 404 (Uttarakhand), India

Personal Profile

Name : Dr. Vinod Kumar
Designation : Asst. Professor of Environmental Science
Date of Birth : August 10, 1980

Address : 86, Gurubaksh Vihar (East), Kankhal,
Haridwar-249408, (Uttarakhand), India
Department : Department of Zoology and Environmental Science,
Faculty of Life Science,
Gurukula Kangri (Deemed to be University),
Haridwar-249 404 (Uttarakhand) India
Contact No. : +911334249091 (Office) +919897189197 (Mobile)
Email : drvksorwal@gmail.com, drvksorwal@gkv.ac.in

Educational Qualification

- Ph.D. in Environmental Science, Thesis title "Effect of Industrial Effluents Irrigation on Agronomical Characteristics of Two Leguminous Crops *Phaseolus vulgaris* (L.) and *Vigna radiata* (L.)". (2010)
- M.Sc. in Environmental Science, Specialization: Wastewater management (2004)
- B.Sc. (Chem., Bot., & Zool.) (2001)

Academic Experience

Undergraduate 12 Years
Postgraduate 12 Years
Ph.D. 11 Years

Research Experience

Research Experience 16 Years

2020 to present As Senior **Assistant Professor (Stage 3)**
Department of Zoology and Environmental Science
Gurukula Kangri (Deemed to be University), Haridwar, (U.K.)

2015 to 2020	As Senior Assistant Professor (Stage 2) Department of Zoology and Environmental Science Gurukula Kangri University, Haridwar, (U.K.)
2011 to 2015	As Assistant Professor (Stage 1) Department of Zoology and Environmental Science Gurukula Kangri University, Haridwar, (U.K.)
2010 to 2011	As Senior Research Fellow Aqunce Inc., 5240 Tennyson Parkway, Ste. 201 Plano, Texas, 75024, USA and No.1 Professors' Colony, Gurukula Kangri Vishwavidyalaya, Haridwar, (U.K.) -Performed research work on Electrolytic Treatment of Wastewater
2007 to 2010	As UGC Meritorious Research Fellow Department of Zoology and Environmental Science Gurukula Kangri Vishwavidyalaya, Haridwar, (U.K.) Performed research work on "Effect of Industrial Effluents Irrigation on Agronomical Characteristics of Two Leguminous Crops <i>Phaseolus vulgaris</i> (L.) and <i>Vigna radiata</i> (L.)".

Research Area

- Agro-ecology
- Environmental Pollution Research
- Wastewater Management
- Bioremediation and
- Energy studies

Other Academic Duties/ Responsibilities

- As member of Admission Committee
- As member of Eco-Club
- As Co-coordinator, Students Welfare Council
- As member of Discipline Committee
- As Department Co-coordinator, Swayam Course
- Member Criteria-in-Charge, IQAC
- Joint Coordinator, Bio-composting Unit
- Member of Research Degree Committee (RDC)

Research Guidance

At Post-graduate Level

Twenty-four students worked and **two students** are working their **M. Sc. dissertation** under my supervision covering important areas of research in the field of **Environmental Science**.

At Doctorate Level

Five students have awarded their Ph.D. Thesis and **Four students** are working Ph.D. dissertation under my supervision covering important areas of research in the field of **Environmental Science**.

Kindly see annexure "I"

Research Projects carried out

1. UGC, New Delhi, Major Research Project entitled "Impact of wastewater disposal on ground water, soil and agronomical characteristics of crops grown in the vicinity of Sugar mill at district Haridwar (Uttarakhand)". Duration - 3 years at Department of Zoology and Environmental Sciences, Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand), India. (Budget sanctioned: ₹ 12, 20000) during the year 2014-15 (Grant not released due to 12b certificate of the GKV).
2. UCS&T, Dehradun, Major Research Project entitled "Current status of solid waste generation, its impacts, and sustainable management plan in Haridwar district, Uttarakhand". Duration - 2 years at Department of Zoology and Environmental Sciences, Gurukula Kangri (Deemed to be University) sanctioned by Uttarakhand State Council for Science and Technology (UCS&T/R&D-20/22-23/21110/2) (Budget sanctioned: ₹ 7, 96,800) during the year 2021-22 (Ongoing).

Research Publications

Research papers/ scientific articles are published /accepted in Indian/ International Journals of repute.

Research papers	Published	:	136
	Accepted	:	01
	Communicated	:	02

Scientific Articles	Published	:	04
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Kindly see annexure "II"

Journal/Book Chapters	Published	:	16
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Kindly see annexure "III"

Books Authored/Edited	:	05
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Kindly see annexure "IV"

Seminars/Conferences/Orientation/Refresher course

Until 2022	Attended	:	68
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Kindly see annexure "V"

Seminars/Conferences/Workshop organized

Until 2022	Organized	:	27
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Kindly see annexure "VI"

Members of Scientific Societies

- **Founder member** of Applied and Natural Science Foundation, Haridwar, India
- **Life member** of Applied and Natural Science Foundation, Haridwar, India
- **Editorial Board member** of Journal of Applied and Natural Science, Haridwar, India
- **Life member** of Foundation of Natural Science and Culture, Haridwar, India
- **Professional member** of International Society for Development and Sustainability (ISDS), Japan.
- **Professional member** of European Water Resources Association, Greece.

- **Life member of** Indian Science Congress Association, Kolkata, India
- **Life member of** Indian Science Congress Association (Haridwar Chapter), Haridwar, India
- **Founder President** of Agriculture and Environmental Science Academy, Haridwar, India.
- **Life member** of Agriculture and Environmental Science Academy, Haridwar, India.
- **Editor-in-chief** of International Journal “Archives of Agriculture and Environmental Science”: An official publication of Agriculture and Environmental Science Academy, Haridwar, India.

Academic Honors

- As **UGC Meritorious Research Fellow** at Department of Zoology and Environmental Science, Gurukula Kangri Vishwavidyalaya, Haridwar, from 2008 to 2010.
- As **Senior Research Fellow** of Aquance Inc., Texas, USA and Applied and Natural Science Foundation, Haridwar from 2010-2011.
- As **Joint Organizing Secretary** of the World Congress for Man and Nature held at Department of Zoology and Environmental Science, Gurukula Kangri Vishwavidyalaya, Haridwar, 2011.

Kindly see annexure “VII”

Teaching Experience

- Graduate, Postgraduate and Ph.D. - **Twelve** years
- **Twelve years** (2011 to till date): As **Assistant Professor**, Department of Zoology and Environmental Science, Gurukula Kangri Vishwavidyalaya, Haridwar.
- Currently teaching graduate, post-graduate and Ph.D. classes.

Popular Scientific Articles

Kindly see annexure “VIII”

Invited Lecture/Talk: 05

Kindly see annexure “IX”

Personal Webpages

- Cumulative impact factor: 226.92**
- h-index of individual (As per Scopus): 22**
- Citation index: 1225**
<https://www.scopus.com/authid/detail.uri?authorId=57200152850>
<https://www.mendeley.com/profiles/vinod-kumar97/>
- Vidwan ID: <https://vidwan.inflibnet.ac.in/profile/157718>**
- Research Gate: https://www.researchgate.net/profile/Vinod_Kumar381**
- Google Scholar: <https://scholar.google.com/citations?user=kG2jvkUAAAAJ>**
- LinkedIn: <https://www.linkedin.com/in/dr-v-k-sorwal-69456090/>**
- ORCID: <http://orcid.org/0000-0002-7197-7666>**

Sd...
Dr. Vinod Kumar

Annexure "I"
(Administrative/Academic Duties/Responsibilities)

1. Worked as member of Admission Committee for B.Sc. and M.Sc. classes, Gurukula Kangri Vishwavidyalaya from 2011 to 2022.
2. Worked as Co-coordinator of Eco-Club, Gurukula Kangri Vishwavidyalaya from July 2015 to till date.
3. Co-coordinator, Students Welfare Council in the Faculty of Life Sciences, Gurukula Kangri Vishwavidyalaya during the year 2015-16.
4. Worked as member of Discipline Committee of Gurukula Kangri Vishwavidyalaya from 29th August 2018 to till date.
5. Worked as Coordinator of Swayam Courses taught in the Department of Zoology and Environmental Science from 19th February 2021 to till date.
6. Worked as member of Admission Committee for M.Sc. Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar during 2021.
7. Worked as member of Criteria-in-Charge of Governance, Leadership and Management under Internal Quality Assurance Cell (IQAC), Gurukula Kangri (Deemed to be University), Haridwar since January, 2022.
8. Worked as member of syllabus preparation committee for B.Sc. Zoology (Hons.) and B.Sc. Environmental Science (Hons.) and Environmental Science and Sustainable Development as per the National Education Policy, 2020.
9. Convenor of Finance & Infrastructure Committee constituted under Research & Development Cell, Gurukula Kangri (Deemed to be University), Haridwar since 4th June, 2022.
10. Working as joint coordinator of Bio-composting Unit from 18th July, 2022.
11. Worked as member of screening committee for the selection of post of Section Officer, Assistant, UDC, Lab Attendant, Library Assistant, Private Secretary and Coach in Gurukula Kangri (Deemed to be University), Haridwar during September and October 2022.
12. Member of Course Coordination Committee for P.G. Diploma in Industrial Health Safety and Environment, Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar.
13. Worked as Deputy Director, Research and Development Cell, Gurukula Kangri (Deemed to be University), Haridwar from 29-12-2022 to.
14. Department Member of Board of Studies (BoS) of the UG, PG and PhD syllabus of Environmental Science and sustainable Development, Zoology, Environmental Science, PG diploma in Industrial Health, Safety and Environment, Disaster Management as per NEP 2020 from 2022-23 and 2023-24.
15. As Senior Assistant Professor worked as member of Research Degree Committee (RDC) of the Department of Zoology and Environmental Science from 25-05-2023 to till date.
16. Worked as Convener of DSIR renewal committee of the Gurukula Kangri (Deemed to be University) in 2023.

Annexure "II" (Research Guidance)

At Post-Graduate Level (M. Sc. Dissertations)

1. Effect of pulp and paper mill effluent disposal on soil characteristics in the vicinity of Uttaranchal Pulp and Paper Mill, Haridwar (Uttarakhand), India by Mr. Sandeep Kumar in the year 2014.
2. Impact of Glass industry effluent disposal on soil properties in the province of Asahi India Glass Ltd., Haridwar (Uttarakhand), India by Mr. Vishvendra Tomar in the year 2014.
3. Assessment of phytoremediation efficiency of water caltrop (*Trapa natans* L.) using effluent of State Industrial Development Corporation of Uttarakhand Ltd. (SIDCUL), Haridwar (Uttarakhand), India by Mr. Sumit Kumar in the year 2015.
4. Physico-chemical characteristics of pond water at Jamalpur Kalan, Haridwar (Uttarakhand) by Mr. Rohit Kumar in the year 2016.
5. Effect of sewage effluent disposal on soil characteristics at Haridwar (Uttarakhand) by Mr. Rajneesh Singh in the year 2016.
6. Phycoremediation potential of *Spirogyra* sp. using sugar mill effluent by Mr. Prabhav Gautam in the year 2016.
7. Assessment of biogas production from co-digestion of different substrates: A lab scale study by Mr. Mohd. Nadeem in the year 2017.
8. Bio-adsorption treatment of paper mill effluent using leaf powder of *Eichhornia crassipes* by Mr. Akshay Kumar in the year 2017.
9. Nutrients uptake and mycoremediation efficiency of milky mushroom (*Calocybe indica* P&C) grown on sugar mill effluent treated compost and its use for biogas production by Mr. Pankaj Kumar in the year 2018.
10. Effects of selected heavy metals on morpho-anatomical parameters of water lettuce (*Pistia stratiotes* L.) grown in their aqueous solution during phytoremediation by Mr. Ashu Saini in the year 2018.
11. Optimization of PGPR and silicon application for enhanced growth and crop yield of French bean (*Phaseolus vulgaris* L.) by Mr. Ali Khan in the year 2019.
12. Bioethanol production potential of sesame (*Sesamum indicum* L.) plant biomass: Optimization and modeling studies by Mr. Sachin Kumar in the year 2019.
13. Phytoremoval assessment of methylene blue and methyl orange dyes from aqueous solution by hornwort (*Ceratophyllum demersum* L.) by Mr. Pankaj Kumar in the year 2020 (Enroll. No. 151723).
14. Experimental assessment of Flaxseed (*Linum usitatissimum* L.) oil for biodiesel production using different catalysts by Mr. Sashikant in the year 2020 (Enroll. No. 151396).
15. Photocatalytic degradation of dye pollutants from synthetic wastewater using plant biomass and titanium dioxide (TiO₂) nanoparticles by Mr. Prateek in the year 2020 (Enroll. No.150171).
16. Phytoremediation efficiency of Taro (*Colocasia esculenta* L.) plant using SIIDCUL industrial effluent, Haridwar,

- India by Mr. Shashi Bhushan Kumar in the year 2021 (Enroll. No. 191274).
17. Assessment of biogas production using fruit peel wastes collected from juice vendors of Haridwar city, India by Mr. Rohit Kumar in the year 2021 (Enroll. No. 161447).
 18. Response of French bean (*Phaseolus vulgaris* L.) under combined application of titanium dioxide nanoparticles and sewage sludge by Mr. Pushpendra Singh in the year 2021 (Enroll. No. 191270).
 19. Phytoremediation efficiency of water lettuce (*P. stratiotes*) plant using SIIDCUL industrial effluent of Haridwar, India by Mr. Divye Tyagi in the year 2022 (Enroll. No. 200253).
 20. Management of agricultural and wetland plant's biomass through Oyster (*Pleurotus florida*) mushroom cultivation by Mr. Pankaj Kumar in the year 2022 (Enroll. No. 205717012).
 21. Effects of fluoride on physiological and biochemical parameters of spinach (*Basella alba* L.) under hydroponic cultivation by Mr. Anoop Kumar Pal in the year 2022 (Enroll. No. 205717004).
 22. Phytotreatment of distillery effluent using water lettuce (*P. stratiotes*) plants by Mr. Shobhit Sharma in the year 2022 (Enroll. No. 200258).
 23. Performance of zero liquid discharge treatment plant facility at IOL Chemicals and Pharmaceuticals Ltd., Barnala (Punjab) by Mr. Lakshay Rajput in the year 2023 (Enroll. No. 215717005).
 24. Impact of municipal solid waste leachate on soil characteristics in Haridwar, Uttarakhand by Mr. Gravit in the year 2023 (Enroll. No. 215717004).

At Doctorate Level

(Ph.D. Dissertations)

1. Impact of industrial effluents disposal on soil and vegetable crops grown in district Haridwar (Uttarakhand) - Roushan Kumar Thakur, 2015 (**Awarded on 24 January, 2019**).
2. Efficacy of water lettuce (*Pistia stratiotes* L.) and water hyacinth (*Eichhornia crassipes* [Mart.] Solms) for heavy metals removal from different types of industrial effluents- Jogendra Singh, 2015 (**Awarded on 26 August, 2020**).
3. Studies on phytoremediation potential and biogas production from sacred lotus (*Nelumbo nucifera* Gaertn.), water caltrop (*Trapa natans* L.) and water fern (*Azolla pinatta* R.Br.) grown in SIIDCUL effluent-Piyush Kumar, 2017 (**Awarded on 30 October, 2021**).
4. Nutrient accumulation and bioremediation efficiency of White button (*Agaricus bisporus* J.E. Lange) and Shiitake (*Lentinula edodes* Berk.) mushrooms-Pankaj Kumar, 2019 (**Awarded on 11 March, 2022**).
5. Sequential industrial wastewater treatment along with bio-oil and biochar production using *Chlorella sp.* isolated from Ganga river- Sonika Kumari, 2020 (**Awarded on 21 July, 2023**).
6. Study of variability in ambient air pollutants in foothills of Uttarakhand Himalaya with Associated Impacts- Meera Goswami, 2020 (**Submitted on 16 October, 2023**).
7. Assessment of constructed wetland-based phytotreatment and biochar production potential of Taro (*Colocasia esculenta* L. Schott) and its use in okra cultivation-Sheetal Rani, 2021 (Work in progress).
8. Studies on phytoremediation and biogas production potential of Indian shot (*Canna indica* L.) and Elephant grass (*Pennisetum purpureum*, Schumach.) grown in municipal solid waste leachate-Shweta 2023 (Work in progress).

Annexure "III"
(List of Publications of Dr. Vinod Kumar)

RESEARCH PUBLICATIONS

1. **Vinod Kumar** and Chopra, A.K. (2007). Electronic Waste "E-Waste: A New Environmental Threat. *Journal of Natural and Physical Sciences*, 21 (1-2) 45-50 (ISSN 097-3799).
2. **Vinod Kumar** and Chopra, A.K. (2009). Impact of Climate Change on Biodiversity of India with special Reference to Himalayan region-An Overview. *Journal of Applied and Natural Science*, 1(1): 117-122. <https://doi.org/10.31018/jans.v1i1.48> (ISSN: Print: 0974-9411; Online: 2231-5209; NAAS Rating 5.08; **Scopus indexed; CiteScore 0.2**).
3. **Vinod Kumar**, Chopra, A.K., Pathak, C. and Pathak, S. (2010). Agro-potentiality of Paper Mill Effluent on the characteristics of *Trigonella foenum-graecum* L. (Fenugreek) *New York Science Journal*, 3(5): 68-77 (ISSN: Print: 1554-0200).
4. **Vinod Kumar** and Chopra, A.K. (2010). Influence of sugar mill effluent on physico-chemical characteristics of soil at Haridwar (Uttarakhand), India. *Journal of Applied and Natural Science*, 2(2): 269-279. <https://doi.org/10.31018/jans.v2i2.134> (ISSN: Print: 0974-9411; Online: 2231-5209; NAAS Rating 5.08; **Scopus indexed; CiteScore 0.2**).
5. Pathak, C., Chopra, A.K., **Vinod Kumar** and Srivastava, S. (2010). Heavy metals contamination in wastewater irrigated agricultural soil near Bindal River, Dehradun, India. *Pollution Research*, 29 (4): 33-37 (ISSN: 0257-8050; NAAS Rating 5.01; **Scopus indexed**).
6. Pathak, C., Chopra, A. K., **Vinod Kumar** and Sharma, S. (2011). Effect of sewage-water irrigation on physico-chemical parameters with special reference to heavy metals in agricultural soil of Haridwar city. *Journal of Applied and Natural Science*, 3 (1): 108-113. <https://doi.org/10.31018/jans.v3i1.166> (ISSN: Print: 0974-9411; Online: 2231-5209; NAAS Rating 5.08; **Scopus indexed; CiteScore 0.2**).
7. **Vinod Kumar** and Chopra, A.K. (2011). Impact on physico-chemical characteristics of soil after irrigation with distillery effluent. *Archives of Applied Science Research*, 3(4):63-77 (ISSN 0975-508X).
8. Chopra, A.K., Srivastava, S. and **Vinod Kumar** (2011). Comparative study on agro-potentiality of Paper mill effluent and synthetic nutrient (DAP) on *Vigna unguiculata* L. (Walp) Cowpea. *Journal of Chemical and Pharmaceutical Research*, 3(5):151-165. (ISSN 0975-7384; **Scopus indexed**).
9. Chopra, A.K., Sharma, A.K. and **Vinod Kumar** (2011). Overview of Electrolytic treatment: An alternative technology for purification of wastewater. *Archives of Applied Science Research*, 3(5): 191-206 (ISSN 0975-508X).
10. **Vinod Kumar** and Chopra, A.K. (2011). Alterations in physico-chemical characteristics of soil after irrigation with paper mill effluent. *Journal of Chemical and Pharmaceutical Research*, 3(6):7-22 (ISSN 0975-7384; **Scopus indexed**).

11. **Vinod Kumar** and Chopra, A.K. (2012). Fertigation effect of distillery effluent on agronomical practices of *Trigonella foenum-graecum* L. (Fenugreek). *Environmental Monitoring and Assessment*, 184:1207-1219. <https://doi.org/10.1007/s10661-011-2033-7> (ISSN: Print: 0167-6369; Online: 1573-2959; **Impact factor- 2.513**).
12. **Vinod Kumar** and Chopra, A.K. (2012). Monitoring of physico-chemical and microbiological characteristics of municipal wastewater at treatment plant, Haridwar (Uttarakhand) India. *Journal of Environmental Science and Technology*, 5(2):109-118. <https://doi.org/10.3923/jest.2012.109.118> (ISSN 1994-7887).
13. **Vinod Kumar** and Chopra, A.K. (2012). Effect of paper mill effluent irrigation on agronomical characteristics of *Vigna radiata* (L.) in two different seasons. *Communications in Soil Science and Plant Analysis*, 43(16):2142-2166. <https://doi.org/10.1080/00103624.2012.697236> (ISSN: Print: 0010-3624; Online: 1532-2416; **Impact factor- 1.327**).
14. **Vinod Kumar** and Chopra, A.K. (2012). Effects of textile effluents disposal on water quality of sub canal of Upper Ganga Canal at Haridwar (Uttarakhand), India. *Journal of Chemical and Pharmaceutical Research*, 4(9):4206-4211 (ISSN 0975-7384; **Scopus indexed**).
15. **Vinod Kumar** and Chopra, A.K. (2012). Hydrological characteristics of abandoned Old Ganga Canal at Haridwar (Uttarakhand) India. *Journal of Chemical and Pharmaceutical Research*, 4(11):4774-4782 (ISSN 0975-7384; **Scopus indexed**).
16. **Vinod Kumar**, Chopra, A.K. and Srivastava, S. (2012). Effect of sugar mill effluent irrigation on soil characteristics, germination, vegetative growth and yield of *Vicia faba* (L.). *Journal of Sustainable Environmental Research*, 1(2):221-227. (ISSN 2278-196X).
17. **Vinod Kumar** and Chopra, A.K. (2012). Translocation of micronutrients in French bean (*Phaseolus vulgaris* L.) grown on soil amended with paper mill sludge. *Journal of Chemical and Pharmaceutical Research*, 4(11):4822-4829. (ISSN 0975-7384; **Scopus indexed**).
18. **Vinod Kumar**, Chopra, A.K. and Srivastava, S. (2013). Assessment of metals in vegetables irrigated with biomethnated textile effluent at Haridwar (Uttarakhand), India. *Asian Journal of Plant Science & Research*, 3(1): 120-128. (ISSN 2249 - 7412).
19. **Vinod Kumar** and Chopra, A.K. (2013). Ferti-irrigational effect of paper mill effluent on agronomical characteristics of *Abelmoschus esculentus* L. (Okra). *Pakistan Journal of Biological Sciences*, 16 (22): 1426-1437. (Online ISSN: 1028-8880, **Scopus Indexed**)
20. Chopra, A.K., Srivastava, S., **Vinod Kumar** and Pathak, C. (2013). Agro-potentiality of distillery effluent on soil and agronomical characteristics of *Abelmoschus esculentus* L. (Okra). *Environmental Monitoring and Assessment*, 185: 6635-6644. <https://doi.org/10.1007/s10661-012-3052-8> (ISSN: Print: 0167-6369; Online: 1573-2959; **Impact factor- 2.513**).
21. **Vinod Kumar** and Chopra, A.K. (2013). Response of sweet sorghum after fertigation with sugar mill effluent in two seasons. *Sugar Tech*, 15 (3): 285-299. <https://doi.org/10.1007/s12355-013-0226-9> (ISSN:

Print: 0972-1525; Online: 0974-0740; Impact factor- 1.591).

- 22. Vinod Kumar** and Chopra, A.K. (2013). Enrichment and translocation of heavy metals in soil and *Vicia faba* L. (Faba bean) after fertigation with distillery effluent. *International Journal of Agricultural Policy and Research*, 1(5): 131-141. **(E-ISSN 2350-1561; Impact factor- 1.26).**
- 23. Vinod Kumar** and Chopra, A.K. (2013). Distribution, enrichment and accumulation of heavy metals in soil and *Trigonella foenum-graecum* L. (Fenugreek) after fertigation with paper mill effluent, *Open Journal of Metals*, 3: 8-20. <https://doi.org/10.4236/ojmetal.2013.32A1002> **(ISSN Print: 2164-2761; Online: 2164-277X; Impact factor- 0.20).**
- 24. Vinod Kumar** and Chopra, A.K. (2013). The effects of sugar mill effluent on hybrid cultivar of faba bean (*Vicia faba* L.) and soil properties. *International Journal of Biotechnology Research*, 1(6): 91-102. **(E-ISSN 2328-3505; Impact factor-0.76).**
- 25. Vinod Kumar** and Chopra, A.K. (2013). Response of high yield variety of Mung bean (*Vigna radiata* L.) after fertigation with distillery effluent in two seasons. *International Journal of Biotechnology Research*, 1(7): 111-125. **(E-ISSN 2328-3505; Impact factor-0.76).**
- 26. Vinod Kumar** and Chopra, A.K. (2013). Reduction of weeds and improvement of soil quality and yield of wheat by tillage in Northern Great Plains of Ganga River in India. *International Journal of Agricultural Science Research*, 2(8): 249-257. **(E-ISSN 2327-3321; Impact factor-0.58).**
- 27. Vinod Kumar** and Chopra, A.K. (2013). Accumulation and translocation of metals in soil and different parts of French bean (*Phaseolus vulgaris* L.) Amended with sewage sludge. *Bulletin of Environmental Contamination and Toxicology*, 92 (1): 103-108. <https://doi.org/10.1007/s00128-013-1142-0> **(ISSN: Print 0007-4861; Online: 1432-0800; Impact factor: 2.151).**
- 28. Vinod Kumar** and Chopra, A.K. (2014). Response of French bean to fertigation with wine from molasses distillery effluent in two seasons. *International Journal of Vegetable Science*, 20 (2): 104-123. <https://doi.org/10.1080/19315260.2012.749970> **(ISSN: Print 1931-5260; Online: 1931-5279).**
- 29. Vinod Kumar** and Chopra, A.K. (2014). Fertigation impact of sugar mill effluent on agronomical practices of Mung bean (*Vigna radiata* L.) in two seasons. *International Journal of Agricultural Science Research*, 3(4): 052-068. **(E-ISSN 2327-3321; Impact factor-0.58).**
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Impact factor: 5.190).

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136. Širić, I., Alhag, S.K., Al-Shuraym, L.A., Mioč, B., Držaić, V., Abou Fayssal, S., Kumar, V., Singh, J., Kumar, P., Singh, R., et al. (2023). Combined use of TiO₂ nanoparticles and biochar produced from Moss (*Leucobryum glaucum* (Hedw.) Ångstr.) biomass for Chinese spinach (*Amaranthus dubius* L.) cultivation under saline stress. *Horticulturae*, 9, 1056. <https://doi.org/10.3390/horticulturae9091056> (ISSN: Online: 2311-7524; **Impact factor- 3.1).**

Annexure "IV"
(Journals/Proceedings/Books chapters)

1. **Vinod Kumar** and Chopra, A.K. (2008). Bio-environmental Management of Malaria with use of herbal plants. In: Multifacial Application of Drug Plants, Proceeding of National Seminar on Medicinal plants: Conservation, Cultivation and Utilization II, 301-308.
2. **Vinod Kumar** and Chopra, A.K. (2008). Bioterrorism: A New Threat to Humanity and Life supporting System. Bioterrorism and Biological Warfare, Pointer Publisher, Jaipur, 330-37, pp. 368.
3. **Vinod Kumar**, A.K. Chopra (2013). Contamination of heavy metals in vegetables irrigated with textile effluent at Haridwar (Uttarakhand). Climate Change Effects on Agriculture and Economy, Biotech Books, New Delhi, 73-80.
4. **Vinod Kumar**, A. K. Chopra, Roushan K. Thakur and Jogendra Singh (2018). Contamination of Heavy Metals in Agricultural Soils: Sources, Ecological Consequences, and Remediation Measures. Contamination in Soil Environment, Astral Publication New Delhi, pp. 39-56.
5. **Vinod Kumar**, Kumar, P. and Singh, J. (2019). An introduction to contaminants in agriculture and environment. In: Kumar, V., Kumar, R., Singh, J. and Kumar, P. (eds) Contaminants in Agriculture and Environment: Health Risks and Remediation, Volume 1, Agro Environ Media, Haridwar, India, pp. 1-8, <https://doi.org/10.26832/AESA-2019-CAE-0159-01>
6. **Vinod Kumar**, Singh, J. and Kumar, P. (2019). Heavy metals accumulation in crop plants: Sources, response mechanisms, stress tolerance and their effects. In: Kumar, V., Kumar, R., Singh, J. and Kumar, P. (eds) Contaminants in Agriculture and Environment: Health Risks and Remediation, Volume 1, Agro Environ Media, Haridwar, India, pp. 38-57, <https://doi.org/10.26832/AESA-2019-CAE-0161-04>
7. **Vinod Kumar**, and Kumar, P. (2019). Pesticides in agriculture and environment: Impacts on human health. In: Kumar, V., Kumar, R., Singh, J. and Kumar, P. (eds) Contaminants in Agriculture and Environment: Health Risks and Remediation, Volume 1, Agro Environ Media, Haridwar, India, pp. 76-95, <https://doi.org/10.26832/AESA-2019-CAE-0160-07>
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9. **Vinod Kumar**, Kumar, P., Singh, J. and Kumar, P. (2020). Current status of water pollution by integrated industrial hubs (IIHs) in India. In: Environmental Degradation: Causes and Remediation Strategies, Volume 1, Eds. Kumar, V., Singh, J. and Kumar, P., pp. 104-119, <https://doi.org/10.26832/aesa-2020-edcrs-08>
10. **Vinod Kumar**, Kumari, S. and Kumar, P. (2020). Management and sustainable energy production using flower waste generated from temples. In: Environmental Degradation: Causes and Remediation Strategies, Volume 1, Eds. Kumar, V., Singh, J. and Kumar, P., pp. 154-165, <https://doi.org/10.26832/aesa-2020-edcrs->

11. **Vinod Kumar**, Kothari, R. Kumari, S. and Kumar, P. (2020). Sustainable approaches towards wastewater treatment using algal technology along with management of post-harvest biomass. In: Advances in Environmental Pollution Management: Wastewater Impacts and Treatment Technologies, Volume 1, Eds. Kumar, V., Kamboj, N., Payum, T., Singh, J. and Kumar, P., pp. 174-187, <https://doi.org/10.26832/aesa-2020-aepm-012>
12. Rani, S., Kumari, S., Kumar, P. and **Vinod Kumar** (2021). Biological diversity: Introduction, values, threats and conservation measures. In: Biological Diversity: Current Status and Conservation Policies, Volume 1, Eds. Kumar, V., Kumar, S., Kamboj, N., Payum, T., Kumar, P. and Kumari, S. pp. 1-23, <https://doi.org/10.26832/aesa2021-bdcp-01>
13. Thakur, R.K., **Vinod Kumar** (2022). Uptake, Accumulation and Translocation of Heavy Metals in Cauliflower Grown in Integrated Industrial Effluent Irrigated Soil in District Haridwar (Uttarakhand). In: Bahukhandi, K.D., Kamboj, N., Kamboj, V. (eds) Environmental Pollution and Natural Resource Management. Springer Proceedings in Earth and Environmental Sciences. Springer, Cham. https://doi.org/10.1007/978-3-031-05335-1_1
14. Kumari, S., **Vinod Kumar**, Kothari, R., Kumar, P., Kumar, A. (2022). Biomass Utilization for Biodiesel Production: A Sustainable Technique to Meet Global Fuel Demands and Future Scope. In: Kothari, R., Singh, A., Arora, N.K. (eds) Biomass, Bioenergy & Bioeconomy. Microorganisms for Sustainability, vol 35. Springer, Singapore. https://doi.org/10.1007/978-981-19-2912-0_2
15. Goswami, M., Rani, S. and **Vinod Kumar** (2023). Forest Ecosystem Services in Himalayan Region Current Prospective and Challenges. In: Arya. M (ed.), Biodiversity, Environment and Ecosystem Services, Discovery Publishing House, New Delhi, pp. 127-141.
16. Rani, S., Goswami, M. and **Vinod Kumar** (2023). Forest Ecosystem Services in Himalayan Region Current Prospective and Challenges. In: Arya. M (ed.), Biodiversity, Environment and Ecosystem Services, Discovery Publishing House, New Delhi, pp. 183-197.

Annexure "V"
(Books Authored/Edited)

1. **Vinod Kumar** (2018). A Handbook of Aquatic Biology, Agro-Environ Media, Agriculture and Environmental Science Academy, Haridwar (Uttarakhand), pp. 58.
2. **Vinod Kumar**, Kumar, R., Singh, J. and Kumar, P. (2019). Contaminants in Agriculture and Environment: Health Risks and Remediation, Volume 1, Agro Environ Media, Haridwar, India, pp. 283, <https://doi.org/10.26832/AESA-2019-CAE>; ISBN: 978-93-5321-003-8 (Print) ISBN: 978-81-942017-0-0 (Online).
3. **Vinod Kumar**, Singh, J. and Kumar, P. (2020). Environmental Degradation: Causes and Remediation Strategies, Volume 1, Agro Environ Media, Haridwar, India, pp. 214, <https://doi.org/10.26832/aesa-2020-edcrs> (ISBN: 978-81-942017-1-7 (Print) ISBN: 978-81-942017-2-4 (Online).
4. **Vinod Kumar**, Kamboj, N., Payum, T. Singh, J. and Kumar, P. (2020). Advances in Environmental Pollution Management: Wastewater Impacts and Treatment Technologies, Volume 1, Agro Environ Media, Haridwar, India, pp. 229, <https://doi.org/10.26832/aesa-2020-aepm> (ISBN: 978-81-942017-3-1 (Print) ISBN: 978-81-942017-4-8 (Online).
5. **Vinod Kumar**, Kumar, S., Kamboj, N., Payum, T. Kumar, P. and Kumari, S. (2021). Biological Diversity: Current Status and Conservation Policies, Volume 1, Environ Media, Haridwar, India, pp. 367, <https://doi.org/10.26832/aesa-2021-bdcp> (ISBN: 978-81-954996-2-5 (Print); ISBN: 978-81-954996-4-9 (Online).
6. Singh, A.K., Kumar, C., Singh, K., Singh, A.K., Singh, D.K. and **Vinod Kumar** (2023). Instant Notes on Soil Science, Biotech Books, New Delhi, pp. 449, (ISBN: 978-81-7622-542-7 Print).

Annexure "VI"
(Seminars/ Conferences/Workshops attended/participated)

1. Actively participated and presented a research paper in IInd National Seminar on Medicinal plants: Conservation, Cultivation and Utilization, 9th-11th March, 2007 held at the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand).
2. Actively participated and presented a poster in National Environmental Awareness Workshop on "Solid Waste Management" 10th April, 2007 held at the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand).
3. Actively participated and presented a poster in IInd Uttarakhand Science Congress-15th-17th November, 2007 held at Uttarakhand Academy of Administration, Nainital (Uttarakhand).
4. Actively participated in Workshop on Molecular and Applied Microbiology, 10th-19th February, 2008 held at the Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand).
5. Participated in oral presentation in IIIrd J&K Science Congress-26th 28th February, 2008 held at University of Jammu, Jammu (J&K).
6. Actively participated in national workshop on Techniques in water and waste water treatment, 25th-26th March, 2008 held at the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand).
7. Actively participated and presented a research paper in IIIrd Uttarakhand Science Congress-10th and 11th November, 2008 held at IIT Roorkee, Roorkee, Haridwar (Uttarakhand).
8. Actively participated and presented a research paper in National seminar on "Managing Climate Change: Molecules to Communities", March 21-22, 2009 held at the Department of Zoology Kurukshetra University, Kurukshetra (Haryana).
9. Actively participated and presented a research paper in National seminar on "Environmental Management and Biodiversity Conservation", February 26-27, 2011 held at the Omkarananda Institute of Management and Technology, Rishikesh, Dehradun (Uttarakhand).
10. Actively participated and presented a research paper in National seminar on "Innovations and Applications in Engineering and Applied Sciences", November 9-10, 2011 held at the Faculty of Engineering and Technology, Gurukula Kangri University, Haridwar (Uttarakhand).
11. Actively participated and presented a research paper in International Conference on "Global Innovations, Strategies & Policies in Physical Education & Sports Sciences", February 24-26, 2012 held at Department of Physical Education, Gurukula Kangri University, Haridwar (Uttarakhand).
12. Attended 18th Orientation Programme at Academic Staff College, Kumaun University, Nainital, Uttarakhand", from April 3, 2012 to April 30, 2012.
13. Actively participated in national workshop on "Taxonomic keys and identification tools of different groups of flora and fauna", 29th October, 2012 to 3rd November, 2012 held at the Department of Zoology and

Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand).

14. Actively participated and presented a research paper in 2nd International Science Congress (ISC-2012) on "Science and Technology- Challenges of 21st Century", on 8th December, 2012 to 9th December, 2012 held at Bon Maharaj Engineering College, Vrindavan, Mathura (Uttar Pradesh).
15. Actively participated and presented a research paper in National conference on Emerging Trends in Engineering and Sciences on 9th to 10th November, 2013 at Faculty of Engineering and Technology, Gurukula Kangri University, Haridwar (Uttarakhand).
16. Actively participated and presented a research paper in 8th Uttarakhand State Science & Technology Congress-2013 on 26th -28th December, 2013 held at Doon University, Dehradun, (Uttarakhand).
17. Actively participated and presented a research paper in National seminar on "Economic Upgradation: Environmental Degradation" on January 24-25, 2014 held at Omkarananda Institute of Management and Technology, Rishikesh, Dehradun (Uttarakhand).
18. Attended 19th Refresher Course in the subject of Environmental Science at Academic Staff College, Jawaharlal Nehru University, New Delhi", from February 10, 2014 to March 7, 2014.
19. Presented a research paper in 5th National conference on "Present Innovative Approaches & New Paradigm in Physical Education" on August 29, 2014 organized by Department of Physical Education, Gurukula Kangri University, Haridwar (Uttarakhand).
20. Presented a research paper in Regional Symposium on Technovations for Inclusive Human Development on October 12, 2014 organized by Faculty of Engineering & Technology, Gurukula Kangri University, Haridwar (Uttarakhand).
21. Actively participated in workshop on "Isolation & Characterization of Fungi", 8th November, 2014 held at the Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand).
22. Actively participated and presented a research paper in National Seminar on Threats to Biodiversity and Ecosystems: Impacts of Developmental Projects and Climate Change and 25th All India Congress of Zoology from 17-19th November, 2014 organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand).
23. Actively participated and presented a research paper in National Conference on Science & Technology for Human Development from 20-21st March, 2015 organized by The Indian Science Congress Association: Haridwar Chapter and Department of Ancient Indian History, Culture & Archaeology, Gurukula Kangri University, Haridwar (Uttarakhand).
24. Actively participated and presented a research paper in National Seminar on Yogic Management of Life Style Disorders from 30-31st March, 2015 organized by Department of Human Consciousness & Yogic Science, Gurukula Kangri University, Haridwar (Uttarakhand).
25. Actively participated and presented a research paper in National Conference on Science & Technology for Indigenous Development in India from September 28-30, 2015 organized by the Indian Science Congress

- Association: Haridwar Chapter and Faculty of Engineering & Technology, Gurukula Kangri University, Haridwar (Uttarakhand).
- 26.** Actively participated and presented a research paper in international conference on Advances in Science, Engineering & Technology organized by International Council for Man and Nature (MANU) and International Journal of Advance Research and Innovation on 29-30 January, 2016 at Hotel Urmi, Haridwar (Uttarakhand).
 - 27.** Actively participated in one day workshop on Patent Drafting, Filing and Processing on 14th November, 2016 organized by Intellectual Property Right Cell & Faculty of Medical Science & Health, Gurukula Kangri University, Haridwar (Uttarakhand).
 - 28.** Actively participated and presented a research paper in National Conference on Sustainable Development and Climate Change on 18th November, 2016 organized by Department of Environmental Science, Amity University, Gwalior (Madhya Pradesh).
 - 29.** Actively participated and presented a research paper in 7th National Conference on Science & Technology for National Development from 20-22nd November, 2016 organized by the Indian Science Congress Association: Haridwar Chapter and Department of Chemistry, Gurukula Kangri University, Haridwar (Uttarakhand).
 - 30.** Actively participated and presented a research paper in National Conference on Recent Trends in Green Chemistry and Sustainability from March 22-23, 2017, organized by Department of Environment and Chemistry, Graphic Era University, Dehradun (Uttarakhand).
 - 31.** Attended Saksham-IT Champion Training Program organized by Microsoft and Faculty of Education, Gurukula Kangri University, Haridwar Uttarakhand from 22-23 September, 2017.
 - 32.** Actively participated and presented a research paper in National Conference on Agricultural Sustainability by Cultivation of Medicinal & Aromatic Plants organized by University of Petroleum and Energy Studies, Dehradun on 18 March, 2017.
 - 33.** Actively participated and presented a research paper in International Conference on Sustainable Initiatives in Water Management organized by Department of Chemistry, Manav Rachna University, Faridabad and Green Chemistry Network Centre, Delhi University, Delhi on 6 March, 2018.
 - 34.** Actively participated and presented a research paper in National Seminar on Researches in Environment and Biosciences: Current Scenario and Future Perspectives organized by Department of Zoology, D.A.V. (P.G.) College, Dehradun (Uttarakhand) on 22-23 June, 2018.
 - 35.** Actively participated and presented a research paper in National Conference on Microbial Inoculants for Agriculture and Environmental Sustainability (MAES-2018) organized by Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand) and Patanjali Bio Research Institute, Haridwar on 28th to 30th September, 2018.
 - 36.** Actively participated in National Workshop on Research Methodology in Science and Technology (RMST-

- 2018) organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 4th to 13th October, 2018.
- 37.** Actively participated and presented a research paper in International Conference on Green Initiatives in Science & Technology (GIST-2019) organized by Department of Chemistry, Manav Rachna University, Faridabad in association with Green Chemistry Centre of Excellence, University of York, U.K. on 10th to 11th January, 2019.
- 38.** Attended Interdisciplinary Refresher Course in Environmental Studies (All Disciplines) at UGC-Human Resource Development Center, Kurukshetra University, Kurukshetra”, from February 1, 2019 to February 21, 2019.
- 39.** Actively participated and presented a research paper in National Seminar on Innovative Approaches in Microbial Technology (IAMT-2019) organized by Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand), Haridwar on 8th – 9th March, 2019.
- 40.** Actively participated and presented a research paper in Green & Sustainable Chemistry Conference (GSCC 2019) organized by Department of Chemistry, Manav Rachna University, Faridabad on 7th to 8th November, 2019.
- 41.** Actively participated and presented a research paper in 10th Conference of Indian Science Congress Association (Haridwar Chapter) on Science & Technology: Rural Development organized by Department of Chemistry and Department of Physics, Gurukula Kangri University, Haridwar (Uttarakhand), Haridwar on 15-16th February, 2020.
- 42.** Actively participated in one day national webinar on the COVID-19 Pandemic: Impact, Prevention and Significance of Immunity, organized by Chamanlal Mahavidyalaya Landhaura, Haridwar (Uttarakhand) on 28th May, 2020.
- 43.** Actively participated in two days webinar on Tackling COVID-19 through Traditional Ways organized by Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand), on 19-20th June, 2020.
- 44.** Actively participated in one day international webinar on Medicinal Plants & Folk Healing organized by the Department of Botany, J.N. College, Pasighat (Arunachal Pradesh), on 29th July, 2020.
- 45.** Successfully, completed online training on Online Education & Teaching Methodologies, organized by Swayam Committee, Gurukula Kangri University, Haridwar (Uttarakhand), during 07-10th August, 2020.
- 46.** Actively participated in one day webinar on Intellectual Property and Patenting: What, Why & How, organized by Department of Zoology, D.S.B Campus, Kumaun University, Nainital (Uttarakhand), on 26th December, 2020.
- 47.** Actively participated and presented a research paper virtually in two days national webinar on Sustainable Soil and Water Management for Bio-diversity Conservation, Food Security and Climate Resilience organized by Soil Conservation Society of India, New Delhi on 29th – 30th December, 2020.

- 48.** Actively participated and presented a research paper virtually in 2nd Asian Web Conference on Managing Hill Resources and Diversities for Zero Hunger and Climate Resilience organized by Soil Conservation Society of India, New Delhi on 12th – 13th February, 2021.
- 49.** Actively participated in online National Workshop on Biodiversity and Ecosystem Health Assessment of Upper Ganga Basin organized by Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) and National Institute of Hydrology, Roorkee (Uttarakhand) on 22th to 26th February, 2021.
- 50.** Attended AICTE sponsored One Week Online Short-Term Training Programme-III on Environmental Protection and Management organized by Department of Chemical Engineering & Biotechnology, Sardar Beant Singh State University, Gurdaspur”, from June 14, 2021 to June 19, 2021.
- 51.** Actively participated in Himalayan Day celebration organized by Department of Environmental Science, Graphic Era Hill University, Dehradun (Uttarakhand) on 7th September, 2021.
- 52.** Actively participated and presented a research paper virtually in 27th International Conference of International Academy of Physical Sciences (CONIAPS XXVII) on Recent Advances in Chemical Sciences, organized by School of Physical Sciences, Jawaharlal Nehru University New Delhi and Department of Chemistry, Banaras Hindu University, Varanasi on 26th – 28th October, 2021.
- 53.** Actively participated and presented a research paper virtually in 2nd International Web-Conference of Academy of Natural Resource Conservation and Management on Smart Agriculture for Resource Conservation and Ecological Stability, organized by Academy of Natural Resource Conservation and Management (ANRCM), Lucknow on 29th – 31st October, 2021.
- 54.** Actively participated and presented a research paper virtually in 1st International Conference on Advanced Developments in Chemistry and Allied Sciences-2021 (ADCAS-21) organized by the Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonapat, India held during 16 -17th December, 2021.
- 55.** Actively participated in National e-Workshop on Innovative Techniques in SPSS and Data Analysis organized by Department of Visual Communication, Sathyabama Institute of Science and Technology, Chennai on 3rd to 7th January, 2022.
- 56.** Actively participated and presented a research paper in International Conference on Sustainability and Environmental Perseverance in the Era of Covid 19 (ICSEPC 2022) organized by Department of Environmental Science, Amity University, Gwalior on 17th February, 2022.
- 57.** Actively participated in National Workshop on Research Methodology, Publication & Ethics (RMPE-2022) organized by Department of Physics and IQAC, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) in collaboration with Uttarakhand Science Education & Research Center (USERC), Dehradun from 25th March, 2022-30th March, 2022.
- 58.** Actively participated in three days Faculty Development Programme on Current Scenario and Future

Prospects in Pharmacy Practice and Technology organized online by Carrier Point University, Hamirpur (H.P.), from 1st August, 2022-3rd August, 2022.

59. Actively participated in online workshop on National Education Policy 2020 and Environmental Education organized by UGC-HRDC, Kumaun University, Nainital, Uttarakhand on 25th August, 2022.
60. Attended online Refresher Course in the subject of Environmental Science at UGC-HRDC, Kumaun University, Nainital, Uttarakhand”, from 12th August, 2022 to 27th August, 2022.
61. Actively participated and presented a research paper in International Conference on Precision Agriculture (VAKSANA 2022) organized by Shri Vaishnav Institute of Agriculture, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore (M.P.) during September 26-27, 2022.
62. Actively participated and presented a research paper in International Conference on Green and Sustainable Chemistry Conference 2022 organized by Department of Chemistry, Manav Rachna University, Faridabad, Haryana on 17th – 19th November, 2022.
63. Actively participated and presented a research paper in 3rd International Web-Conference on Natural Resource Management for Global Food Security and Sustainable Development Goals organized by Academy of Natural Resource Conservation and Management (ANRCM), Lucknow and Keladi Shivappa Nayaka University of Agricultural and Horticultural Sciences, Iruvakki, Shivamogga, India on 2nd – 3rd December, 2022.
64. Actively participated and presented a research paper in International Conference on Environment and Human Health: Global Issues organized by the Department of Botany and Microbiology, Gurukula Kangri (Deemed to be University), Haridwar on 7th – 8th December, 2022.
65. Actively participated and presented a research paper in National Conference on Vedic Microbiology Vs Modern Biotechnology organized by Faculty of Life Science, Gurukula Kangri Deemed to be University, Haridwar during 27th – 29th March, 2023.
66. Actively participated and presented a research paper in National Conference on Knowledge, Cultural Traditional & Practices of India organized by Gurukula Kangri (Deemed to be University), Haridwar, Uttarakhand, sponsored by Ministry of Culture, Govt. of India, New Delhi during 29th – 31st March, 2023.
67. Actively participated and presented a research paper in 4th International Sustainability Conference on Health, Safety, Fire and Environmental Advances (HSFEA-2023) in Sustainability Fair 2.0 organized by School of Advance Engineering, UPES, Dehradun, Uttarakhand from 30th – 31st October, 2023.
68. Actively participated and presented a research paper in International Seminar on Ayurveda for one Health, organized by the Department of Botany and Microbiology, Gurukula Kangri (Deemed to be University), Haridwar on 07 November, 2023.

Annexure "VII"
(Conference/Symposia/Workshop organized)

1. Worked as Joint Organizing Secretary in the World Congress for Man and Nature: Global Climate Change and Biodiversity Conservation organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 11th to 13th November, 2011.
2. Worked as member of Organizing Committee of the National Seminar on Threats to Biodiversity and Ecosystems: Impacts of Developmental Projects and Climate Change & 25th All India Congress of Zoology organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 17th to 19th November, 2014.
3. Worked as member of organizing committee of International Conference on Advances in Science, Engineering & Technology organized by International Council for Man and Nature (MANU) and International Journal of Advance Research and Innovation on 29-30 January, 2016 at Hotel Urmi, Haridwar (Uttarakhand).
4. Organized one day Awareness Workshop on Fireworks: Ill effects and Health Hazards in the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 27th February, 2016.
5. Worked as member of Organizing Committee of the one-day workshop for awareness on International Ozone Day: Effect of Ozone on Earth's Environment and Control Measures organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 16th September, 2017.
6. Worked as member of Organizing Committee of the XXVI International Bioacoustics Congress organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 8th to 13th October, 2017.
7. Worked as member of Organizing Committee of the one-day workshop on Himalaya & Its Cultural Heritage organized by Green Audit Cell and Eco-Club, Gurukula Kangri University, Haridwar (Uttarakhand) on 9th September, 2018.
8. Worked as member of Local Organizing Committee of National Conference on Microbial Inoculants for Agriculture and Environmental Sustainability (MAES-2018) organized by Department of Botany and Microbiology, Gurukula Kangri University, Haridwar (Uttarakhand) and Patanjali Bio Research Institute, Haridwar on 28th to 30th September, 2018.
9. Worked as member of Organizing Committee of National Workshop on Research Methodology in Science and Technology (RMST-2018) organized by Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 4th to 13th October, 2018.
10. Organized World Sparrow Day in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 20th March, 2021.

- 11.** Organized an online National Workshop on Biodiversity and Ecosystem Health Assessment of Upper Ganga Basin organized by Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) and National Institute of Hydrology, Roorkee (Uttarakhand) on 22th to 26th February, 2021.
- 12.** Organized National Symposium on Avian Biology and chaired one technical session in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 30-31st March, 2021.
- 13.** As Organizing Secretary, organized a webinar on World Environment Day on ecosystem services and livelihood in the Himalayan region in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 5th June, 2021.
- 14.** As Organizing Member, organized Wildlife Week Celebration in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) from 4th to 8th October, 2021.
- 15.** As Organizing Member, organized Wetland Day Celebration in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 2nd February, 2022.
- 16.** As Organizing Member, organized National Science Day Celebration in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 28th February, 2022.
- 17.** As Convenor, organized World Environment Day Celebration in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 4-5th June, 2022.
- 18.** As Organizing Member, organized Parent Teachers Meet in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 10th June, 2022.
- 19.** As Organizing Member, organized Alumni Meet in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 15th June, 2022.
- 20.** As Organizing Member, organized Harela Festival in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 16th July, 2022.
- 21.** As Organizing Secretary, jointly organized two days workshop on Himalayan Day in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) and Amar Ujala (Daily News Paper) from 8th September, 2022 to 9th September, 2022.
- 22.** As Organizing Secretary, organized six days National Workshop on Science Communication and Research Methodology in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) from 12th - 17th December, 2022.

- 23.** As Co-Convener, organized National Conference on Vedic Microbiology Vs Modern Biotechnology organized by Faculty of Life Science, Gurukula Kangri Deemed to be University, Haridwar during 27th – 29th March, 2023.
- 24.** As Organizing member, organized National Conference on Knowledge, Cultural Traditional & Practices of India organized by Gurukula Kangri (Deemed to be University), Haridwar, Uttarakhand, sponsored by Ministry of Culture, Govt. of India, New Delhi during 29th – 31st March, 2023.
- 25.** As Organizing Secretary, organized one day workshop on Biodegradable Solid Waste Management and Vermi-Farming for Sustainable Environment at Bio-composting Unit, Department of Zoology and Environmental Science, Gurukula Kangri Deemed to be University, Haridwar on 5th June, 2023.
- 26.** As Organizing member, organized one day national workshop on Community Participation for Sustainable Himalayan Ecosystem in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) on 9th September, 2023.
- 27.** As Convener, organized workshop on “Partnerships for Wildlife Conservation” during Wildlife Week- 2023 celebrated in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) from 2nd -8th October, 2023.

Annexure "VIII"
(Members of Scientific Bodies/Societies)

Members of Scientific Societies

1. As founder member of Applied and Natural Science Foundation, No.1 Professors' Colony, Gurukula Kangri University, Haridwar.
2. As Joint Organizing Secretary member of the World Congress for Man and Nature: Global Climate Change and Biodiversity Conservation held at Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar, on 11th to 13rd November, 2011.
3. Editorial board member of Journal of Applied and Natural Science, published by Applied and Natural Science Foundation, No.1 Professors' Colony, Gurukula Kangri University, Haridwar since the year 2012.
4. As UGC Research Fellow from 18/1/2008 to 14/12/2009 at the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar.
5. As fellow of Applied and Natural Science Foundation, No.1 Professors' Colony, Gurukula Kangri University, Haridwar since the year 2012.
6. Editorial Board member of International Journal of Plant Physiology and Biochemistry, Academic Journals, Victoria Island, Lagos since the year 2012.
7. Editorial Board member of Journal of Agricultural Science, Canadian Center of Science and Education, 1120 Finch Avenue West Suite 701-309 Toronto, ON., M3J 3H7 Canada since the year 2012.
8. Life member of Journal of Sustainable Environmental Research, published by Foundation of Natural Science and Culture, Gurukula Kangri University, Haridwar (Uttarakhand), India since the year 2012.
9. Life member of the Indian Science Congress Association 14, Dr. Biresh Guha Street, Kolkata- 700 017, India (Membership No. L23448) since the year 2014.
10. Life member of Indian Science Congress Association, Haridwar Chapter, Gurukula Kangri University, Haridwar (Uttarakhand), India since the year 2014.
11. Editorial Board member of International Journal of Agricultural Science and Natural Resources, American Association for Science and Technology, 1521 Concord Pike Suite 301, Wilmington, New Castle De 19803 USA since the year 2014.
12. Awarded Appreciation Certificate for best performance during 25th All India Congress of Zoology held at Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) from November 17 to November 19, 2014.
13. Editorial Board member of Journal of Environment and Health Sciences published by Ommega Online Journals, 8211, Tamarron Drive, Plainsboro, NJ-USA from October, 2014.
14. Co-coordinator of Eco club of Gurukula Kangri University, Haridwar (Uttarakhand) since the year 2015.
15. Editorial Board member of Journal of Research in Agriculture published by Scholink, Los Angeles since the

year 2016.

16. Regularly worked as reviewer of prestigious International Journals such as International Journal of Phytoremediation, Agriculture, Horticulturae, Journal of Fungi, Sustainability, etc.
17. Worked as guest editor of a special issue of *Agriculture* (**ISSN 2077-0472; Impact factor: 3.408**) on “Agricultural Environmental Pollution, Risk Assessment, and Control” under the section “Ecosystem, Environment and Climate Change in Agriculture”. published by MDPI Journals during 2022-2023.
18. Worked as guest editor of a special issue of *Foods* (**ISSN 2304-8158; Impact factor: 5.561**) on “Circular Economy: Food Produced from Agro-Industrial Wastes with Enhanced Nutritional and Health Properties” under the section “Food Systems”. published by MDPI Journals during 2022-2023.

Annexure "IX"
(Popular Scientific Articles)

1. **Vinod Kumar**, A K Chopra, Sachin Srivastava, Raaz K. Maheshwari (2013). Uttarakhand: Most Disaster-Prone State of India, Need for Effective Management. *The Science Observer*, 1(1): 1-3.
2. **Vinod Kumar** (2015). Carbon sequestration through reforestation: An effective measure to mitigate the climate change. *Journal of Environment and Health Sciences*, 1(3): 1-2. <https://doi.org/10.15436/2378-6841.15.e003> (ISSN: Online 2378-6841).
3. **Vinod Kumar** (2017). "Nadia Hamari Paristithiki ka Abhinna Ang" Amar Ujala, 13 November, 2017.

**Annexure “X”
(Invited Lecture /Talk)**

1. Delivered a talk on “Use of Pesticides in Agriculture and their Impacts on Human and Birds” Awareness Drive on Sparrow Conservation and Human Wildlife Conflict organized by Department of Zoology and Environmental Science, Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand) from 17-20 March, 2018.
2. Delivered a lecture on “Impacts of Environmental Pollution on Agriculture” at Department of Agriculture and Forestry, Himalayan College, Roorkee Institute of Technology, Roorkee, Haridwar (Uttarakhand) on 17 August, 2019.
3. Delivered a lecture on “Environmental Changes in This Decade” at Department of Agriculture and Forestry, Himalayan College, Roorkee Institute of Technology, Roorkee, Haridwar (Uttarakhand) on 30 October, 2020.
4. Delivered a lecture on “Bioremediation of wastewater and contaminated soils” in Six days National Workshop on Science Communication and Research Methodology in the Department of Zoology and Environmental Science, Gurukula Kangri (Deemed to be University), Haridwar (Uttarakhand) from 12th - 17th December, 2022.
5. Delivered a lecture on “Organic Farming through Vermicomposting” in one day workshop on Biodegradable Solid Waste Management and Vermi-Farming for Sustainable Environment at Bio-composting Unit, Department of Zoology and Environmental Science, Gurukula Kangri Deemed to be University, Haridwar on 5th June, 2023.

Annexure "XI"
(Organized/Participated in Community Services)

1. As President of Agriculture and Environmental Science Academy, organized Clean Ganga and Public Awareness Mission in collaboration with "Sparsh Ganga" and participated in Clean Ganga Drive at Sati Ghat, Kankhal Haridwar on 12 November, 2017.
2. As President of Agriculture and Environmental Science Academy, conducted plantation drive in Anand Van, Kankhal Haridwar on 15 August, 2019-2021.
3. As President of Agriculture and Environmental Science Academy, conducted plantation drive in Daksh Temple Forest, Kankhal Haridwar on 15 August, 2022.
4. Conducted social awareness programme on environment in Prathmik Vidyalaya, Jamalpur Kalan, Haridwar on 27th May, 2022.
5. Conducted Clean Ghat and Awareness Program at Shri Hari Giri Ashram, Kankhal Haridwar July-August, 2022.
6. Conducted plantation drive on Harela Festival in the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 16th July, 2022.
7. Conducted plantation drive in the Department of Zoology and Environmental Science, Gurukula Kangri Deemed to be University, Haridwar on 5th June, 2023.
8. Conducted plantation drive on Harela Festival in the Department of Zoology and Environmental Science, Gurukula Kangri University, Haridwar (Uttarakhand) on 17th July, 2023.
- 9.