



School: Studies of Natural Resources
Department: Forestry, Wildlife & Environmental Sciences
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Prof. Krishna Kumar Chandra

Qualification: Ph. D. in Forestry (Year 1998) Forest Research Institute, Dehradun, India

Area of Interest/Specialization: Agroforestry, Tree-microbe interactions, Urban Forestry

Experience: 22 years

Awards and Honors:

- Gold medal for scoring first position in M.Sc. Forestry, GGV, Bilaspur, C.G.
- JRF, SRF, Research Associate (ICFRE, Dehradun, GOI)
- National Eligibility Examination in 1995, 1996
- Young Scientist Associate Award in 18th Indian Agricultural Scientists & Farmer's Congress, 20-21 February, 2016 at Bioved Krishi Prodyogiki Gram, Allahabad, UP.
- Distinguished Faculty Award, 2016 Venus International Faculty meet 2016 on dated 9 July, 2016.
- Outstanding work in Social and community, HEI Awards 2021, The progress Global Awards 2021 on 7th November, 2021, at Raipur, Chhattisgarh.

Research Projects

S. No.	Title	Funding agency	Year	Amount Sanctioned (Rs in Lakh)
1.	<i>Vesicular Arbuscular Mycorrhizal</i> fungi in important forest species planted in Entisol soil of eastern Chhattisgarh and its exploitation for the production of quality nursery stock. PI	UGC, New Delhi	2014	13.82

2.	Study of Structure and Function Of Different Agroforestry Practices Existing in Chhattisgarh Plain Zone. PI	C.G. Council of Science & Technology	2015	4.90
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Consultancy Project

CAMPA (Compensatory afforestation fund management and planning authority) Chhattisgarh
Rs. 40 Lakhs for Monitoring and Evaluation of APO work 2018-19.

Publications:

Publication		First Author	Co Author	Total
(i)	Research Papers	32	30	62
(ii)	Book	04	01	05
(iii)	Book chapters	06	02	08
(iv)	Paper presented in seminar/ symposium/ workshop, conference, etc.	32	-	32

Publications

1. Jamaluddin and Chandra, K.K. **1995**: Development of VA-Mycorrhizae in tree species planted in coal mine dumps of Maharashtra. **Mycorrhiza News** 7(2), 8-9.
2. Williams A.J., Chandra, K.K., Dugaya D., Mishra A.K. and Banerjee S.K. **1995**: Population status of VAM fungi in rehabilitated ash disposal area. **Environment and Ecology**. 13(2), 384-387. [**Scopus journal**] [**SCI journal**]
3. Dugaya D, William A.J., Chandra K.K., Gupta B.N. and Banerjee S.K. **1996**: Mycorrhizal development and plant growth in amended coal mine spoil. **Indian Journal of Forestry**. 19(3), 222-226.
4. Jamaluddin and Chandra, K.K. and Chaturvedi P. **1997**: Development of VAMF in different bamboo species in bambusetum. **Indian Phytopathologist**. 50(4), 552-556. [**Scopus journal**]
5. Jamaluddin and Chandra, K.K. **1997**: Distribution of VAM fungi in bauxite mine overburden plantation of Amarkantaka. **Indian Forester**. 123(5), 412-418. [**SCI journal**] [**Scopus journal**]
6. Chandra K.K. Jamaluddin and Chaturvedi P. **1997**: Comparative study of VA-Mycorrhizal root infection and spore relative density in *Grevillia pteridifolia*. **Mycorrhiza New**. 9,2.

7. Chandra K.K., Jamaluddin and Singh, A.K. **1997**: VAM infection in tree species planted in coal mine overburden at Kusmunda (MP) India. **Proceeding National Academy of Science India** 67(B) 11, 149-156. [SCI journal] [Scopus journal]
8. Chandra K.K. and Jamaluddin**1997**: Re-vegetation of mined overburden through vesicular arbuscular mycorrhiza. **VanikiSandesh**. 21(3), 13-15.
9. Sharma, M.C., Bhandari, P.S., Mohammad, G., Paroha, S. and Chandra, K.K. **1997**: Effect of different soil mixtures on the production of quality seedlings of *Tectona grandis* in nursery. **VanikiSandesh**. XXI, 3-7.
10. Chandra K.K. and Jamaluddin**1998**: Seasonal variation of VAM fungi in tree species planted in coal mine overburden of Kusmunda. **Journal of Tropical Forestry**. 14(1), 118-123.
11. Sharma M.C., Chandra K.K. and Mohammad G. **1998**: Growth potentiality of different soil and its mixtures for some forestry species. **Journal of Tropical Forestry**. 14(1), 56-64.
12. Chandra K.K., Sharma M.C. and Tiwari K.P. **1998**: Regeneration status in different ANR areas situated in various forest ecosystems. **Journal of Tropical Forestry**. 14(4), 262-264.
13. Jamaluddin and Chandra, K.K. and Rajesh Kumar **1998**: Effect of fungicides on root colonization and development of VAM in *Dalbergia sissoo*. **Indian Forester**. 124(8), 658-662. [SCI journal] [Scopus journal]
14. Paroha, S., Chandra, K.K. and Bhandari, P.S. **1999**: growth performance of *Bambusa arundinacea* in relation to VA-Mycorrhizal inoculation. **VanikiSandesh**. XXIII, 21-23.
15. Chandra K.K., Bhandari P.S. and Sharma M.C. **1999**: Suitability of different soil types for biomass production of some forestry species. **Annals of Forestry**. 7(1), 151-152. [SCI journal]
16. Chandra K.K. and Jamaluddin**1999**: Distribution of Vesicular Arbuscular Mycorrhizal fungi in coal mine overburden dumps. **Indian Phytopathology**. 52(3), 254-258. [Scopus journal]
17. Chandra K.K. and Jamaluddin**1999**: Dynamics of VAM infectivity and their population under different seasons in Teak and bamboo plantations of Chandrapur (MS). **Vaniki Sandesh**, XXIII(I), 16-20.
18. Chandra K.K., Paroha S.,M.C. Sharma and Tiwari K.P. **1999**: Dynamics of PSB on growth enhancement of some forestry species. **My Forest**. 35(1), 67-71.
19. Paroha S., Chandra K.K. and Tiwari K.P. **2000**: Synergistic role of VAM and *Azotobactor* inoculation on growth and biomass production of forestry species. **Journal of Tropical Forestry**. 16, 13-21
20. Chandra K.K., Bhandari P.S., Khosla H. and Tiwari K.P. **2001**: Comparative study on regeneration status, pH and organic matter content in protected mixed forest and unprotected forest. **Indian Journal of Forestry**. 24(4), 414-418.
21. Chandra K.K., Wadhera S.L. and Pandey A. **2001**: An evaluation of the effect of ANR programmes on regeneration and soil nutrient status of Teak, Sal and mixed forest area of Madhya Pradesh. **My Forest**. 37(1), 399-416.
22. Jamaluddin, Chandra KK and Goswami MG. 2001. Effectiveness of various types of VAM inocula on growth and biomass of *Bambusa nutans*. **Mycorrhiza News** 12 (3), 15-17.

23. Chandra K.K. and Ujjaini M **2002**: Interaction of AMF with three levels of soil organic matter and their influence on seedling biomass and root infection of six forest specie. **My Forest**. 38(2), 155-161.
24. Ram Singh and Chandra K.K. **2005**: Varietal replacement of lentil in Ballia district. **KVK Science Journal**.1(1), 63-64.
25. Singh V.B. and Chandra K.K. **2005**: Influence of biofertilizers on productivity of *Pigeon pea*. **Environmental Biology and Conservation**. 10,65-66.
26. Niraj Kumar, Room Singh, Mishra B.N. and Chandra K.K. **2007**: Influence of organic manure, biofertilizer and nitrogen levels of nutrients uptake soil properties and yield of rice. **Indian Journal of Fertilizer**. 3(7), 45-50.
27. Paroha S., Chandra K.K. and Yadav Rakhi. **2009**: Integrated effect of biofertilizers AM, Azotobacter and PSB and chemical fertilizers on growth and nutrient acquisition by *Tectona grandis*. **Journal of Tropical forestry**. 25(I&II),54-61.
28. Chandra K K, Niraj Kumar, AvinashVerma and Saxena A.K. **2010**: Influence of certain tree species plantations on Physiochemical properties and microflora of soil. **Indian Journal of Agroforestry**, 12 (I),84-90.
29. Neeraj K, Chandra KK and Room S. 2010. IPNS on growth, yield and economics of rice. **Indian Journal of Fertilisers** 6 (2), 25-28.
30. Chandra K.K., Niraj Kumar and Girischand**2011**: Studies on Mycorrhizal inoculation on dry matter yield and root colonization of some medicinal plants grown in different stress soils and forest soil. **Journal of Environmental Biology**. 3, (6),975-979. [SCI journal] [Scopus journal]
31. Gireesh chand, Chandra, K.K. and Sanjeev Kumar **2011**: Efficacy of different insecticides against fruit borer (*Leucinodes orbonalis* Guenee) of brinjal in eastern parts of Uttar Pradesh, India. **Plant archives**. Vol. 11(1),101-103. [Scopus journal]
32. Chandra, K.K., Pandey, S.K. and Singh, A. K. **2012**: Influence of tree rejuvenation, IPNM and VA-Mycorrhizal fungi on shoot emergence, yield and fruit quality of *Psidium guajava* under farmers field condition. **International Journal of Biosciences**. 2(11), 9-17. [SCI journal]
33. Pandey SK and Chandra K.K. **2013**. Impact of Integrated Nutrient Management on yield of tomato under farmer's field. **Journal of Environmental biology**, 34 (6): 1047-1051 [SCI journal] [Scopus journal]
34. Chandra, K.K. **2013**. Seedling quality, biomass promotion and nutrient uptake potential of AMF, Azotobacter and Pseudomonas in *Azadiracta indica* under nursery condition. **Journal of Biodiversity and Environmental Sciences**,Vol. 3, No. 4, p. 39-45, [SCI journal]
35. Chand, G. and Chandra, K.K. **2014**. Symptomological, cultural and molecular variability of *Alternaria brassicicola* Leaf Spot in Broccoli (Brassica Oleracea Var. Italica L.). **International Journal Pharm Bio Sci.**, 2014 April ; 5 (2) : (B) 680 – 688.
36. Chandra, K.K. **2014**. Evaluation of growth and economic parameters of *Cucuma longa* and *Amorphophallus paeonifolius* intercrops in medium aged *Pisidium guajava* orchard. **Caribbean Journal of Science and Technology**, Vol. 2, 392-398.

37. Chandra, K.K. **2014**. Floristic and Microbial Diversity In Different Coal Mine Overburdens And Adjacent Natural Forest Of Chhattisgarh, India. **International Journal Scientific Research in Environmental Sciences**, 2(8), pp. 289-300.
38. Chandra, K.K. **2014**. Recovery Pattern in Diversity and Species of Ground Vegetation and AMF in Reclaimed Coal Mine Dumps of Korba (India). **Expert Opinion Environ Biol** 3:1.
39. Chandra, K.K. and Bhardwaj, A.K. **2015**. Incidence of Forest Fire in India and Its Effect on Terrestrial Ecosystem Dynamics, Nutrient and Microbe. **International Journal of Agriculture and Forestry**, 5(2): 69-78.
40. Chandra, K.K. **2014**. Growth, Fruit Yield and Disease Index of *Carica papaya* L. Inoculated with *Pseudomonas straita* and Inorganic Fertilizers, **Journal of Biofertilizer and Biopesticides**, 5: 146.
41. Chandra, K.K. **2015**. Interaction Effects of Different nutrient levels, Rhizobia and AMF on growth and biomass of *Dalbergia sissoo* Roxb. Seedling under nursery condition. **International Journal of Advanced Research**, 3(7): 1410-1417.
42. Chandra, K.K. 2015. Reclamation of mining waste through the use of mycorrhizal fungi selecting different tree species. A review. **International journal of Education and Science Research Review**. 2(3), 20-27.
43. Chandra K.K. 2016. Use of *Stevia rebaudiana* and its diseases with management. In. Crop disease and their management: integrated approaches, Eds. Gireesh chand and Santosh Kumar, Apple Academic Press Inc US, ISBN 13: 978-1-77188-270-5, 295-308.
44. Chandra K.K. 2016. Morphological and Biochemical Activities of Root Nodule Rhizobium Isolated From Five Multipurpose Forest Species of India. **International Journal of Plant and Soil Science**. 10(3) : 1-6.
45. Bhardwaj A.K. and Chandra, K.K. 2016. Biomass and Carbon Stocks of Different Tree Plantations in Entisol Soil of Eastern Chhattisgarh India. **Current World Environment**. 11(3). [SCI journal]
46. Atul Kumar Bhardwaj and Chandra KK. 2017. AMF symbiosis in forest species plantations and its relationship with major soil nutrients in entisol soil of Bilaspur, (C.G.). **Life science bulletin** – June, vol 14(1), 27-32.
47. Tiwari RKS and Chandra KK. 2017. Flowering and fruiting dynamics of medicinal plants in relation to climatic conditions. **International Journal of Ecology and Environmental Sciences**, 43 (1), 25-34. [Scopus journal]
48. Tiwari RKS and Chandra, KK 2017. Intercropping of sweet flag (*Acorus calamus* L.) with early and late maturing cultivars of rice (*Oryza sativa* L.). **African Journal of Agricultural Research**, 12(20),1713-1726, 18 May, 2017. [Scopus journal]
49. Chandra K K and Atul Kumar Bhardwaj. 2018. Growth, Biomass and Carbon Sequestration by Trees in Nutrient-Deficient Bhata Land Soil of Bilaspur, Chhattisgarh, India. Springer Nature Singapore Pte Ltd. 2018 (eds.) V.P. Singh et al., Energy and Environment, Water Science and Technology Library 80, https://doi.org/10.1007/978-981-10-5798-4_4 p 39-45.

50. Tiwari, R.K.S., Chandra K. K and Dubey S. 2018. Techniques For Breaking Seed Dormancy And Its Efficacy On Seed Germination Of Six Important Medicinal Plant Species. ***International Journal of Agriculture, Environment and Biotechnology***, April, 2018.
51. Chandra K K 2018. Status of Agroforestry outside in forest area of Bilaspur (Chhattisgarh) and constraints for non-adoption. ***Journal of Forest and Environmental Sciences*** 34, No. 5, pp. 412-417, October, 2018, pISSN: 2288-9744, eISSN: 2288-9752 doi.org/10.7747/JFES.2018.34.5.412
52. Bhardwaj AK and Chandra K K. 2018. Soil moisture fluctuation influences AMF root colonization and spore population in tree species planted in degraded entisol soil. ***International Journal of Biosciences***, Vol. 13, No. 3, p. 229-243, 2018. [SCI journal]
53. Atul Kumar Bhardwaj and Chandra K K 2018. Micronutrients Status Under Different Tree Species Plantations In Entisol Soil And Its Relationship With AMF Root Colonization. ***International Journal of Agriculture, Environment and Biotechnology***, IJAEB: 11(5): 731-738, October 2018.
54. Chandra K K and A.K. Singh. 2018. Carbon stock appraisal of naturally growing trees on farmlands in plain zone districts of Chhattisgarh, India. ***Tropical Ecology*** 59(4): 679–689. [SCI journal]] [Scopus journal]
55. Chandra K K 2020. Microbial inoculants responses on biomass, nutrients and biochemical constituents of *Withania somnifera* (L.) Dunal and *Adhatoda vasica* Nees. *International Journal of Agriculture and animal Sciences. Plant Archive* 20(1), 2061- 2069. [Scopus Journal]
56. Ragula, A and Chandra K K. 2020. Tree species suitable for roadside afforestation and carbon sequestration in Bilaspur, India. ***Carbon Management***, July 2020. DOI: 10.1080/17583004.2020.1790243 [SCI Journal]
57. Kumar R, Darro, HC, Bhardwaj AK., **Chandra, KK** 2021. Forest Fire and its Influence on Environmental conditions: A review. *Bull. Env. Pharmacol. Life Sci.*, Vol 10 [12]November 2021 : 258-267
58. **Chandra KK**, Omesh V, Bhadouria R. 2022. Guru Ghasidas University Campus Greenery for offsetting Carbon Dioxide and Improving Students' Academic Performance. ***Current World Environment***, Vol. 17, No. (1) 2022
59. Rajesh Kumar, Bhardwaj, AK, Chandra KK. 2022. A Review on Agroforestry Practices for Improving Socioeconomic and Environmental Status. ***Indian Forester***, 148(5) : 474-478, 2022. DOI:10.36808/if/2022/v148i5/152405
60. Tiwari, RKS, **Chandra, KK**, Dubey, S, Tripathi, S. 2022. Influence of Packaging Materials and Storage Conditions on Seed Germination Ability and Biochemical Changes in Some Medicinal Plants of Indian Forests. ***Front. For. Glob. Change***, 10 June 2022 | <https://doi.org/10.3389/ffgc.2022.868237>
61. Chandra KK, Bhardwaj AK and Bhadouria R. 2022. Wood production potential of traditional agroforestry in some districts of eastern Chhattisgarh: A case study. ***Indian Journal of Agroforestry*** 24(1): 100-109.

62. Kumar R, Bhardwaj A K, & Chandra KK. 2022. Levels of natural and anthropogenic disturbances and assessment of their impact on plant community functional diversity. **Forestist**, August 13, 2022. DOI:10.5152/forestist.2022.22025.
63. Bhardwaj, AK, Chandra KK and Kumar R. 2023. Water stress changes on AMF colonization, stomatal conductance and photosynthesis of *Dalbergia sissoo* seedlings grown in entisol soil under nursery condition, **Forest Science and Technology**, DOI: 10.1080/21580103.2023.2167873

Books:

- 1) Chandra KK and Singh Rana P.K. 2013: Pramukh Ausadhiya Fasale:krishi taknik ewam arthik wishleshan Vasundhara Prakashan Gorakhpur. ISBN 9789384029005, P. 131.
- 2) Chandra KK, Singh Rana P.K. and Gireesh chand. 2013: Krishi vaniki hetu Upayogi van Prajatiyo. Vasundhara Prakashan Gorakhpur. ISBN 9789384029012, P. 67.
- 3) R.K.S. Tiwari and Chandra, K K. 2016. Antimicrobial properties of Medicinal Plants. M/s Narendra Publishing House, 1417, Kishan Dutt Street, Maliwara, DELHI-11 0 006 (India), New Delhi, ISBN: 978-93-84337-63-6, P 242.
- 4) Chandra KK and Kumar R. 2022. Forestry Practicals (A complete practical solution for students), Scientific Publishers, Jodhpur, India. ISBN 9789391418366

Book Chapters:

1. Jamaluddin and Chandra, K.K. **1999**: Application of VAM technology in bamboo cultivation in mine soils. In Modern approaches and innovations in soil management (*Eds.* Bagyaraj D.J., VarmaAjit, Khanna K.K. and Kehri H.K.) Rastogi Publication, Meerut 324-332.
2. Chandra KK 2016. Use of *Stevia rebaudiana* and Its Diseases With Management. CROP DISEASES AND THEIR MANAGEMENT Integrated Approaches, Apple Academic Press USA 13:978-1-77188-270-5, edited by Gireesh Chand, Santosh Kumar, Chapter 15, p 296-307.
3. Chandra K K and Chand Gireesh. 2017. Aloe vera: chemical constituents, usage and cultivation technology. In Conservation of medicinal plants conventional and modern approaches (Ed. H.K. Chourasia). Scientific Publisher, New Delhi.
4. Chandra KK, Bhardwaj AK, Singh A, Rajesh Kumar 2021. Impact of drought on tropical forests and plant mechanisms to mitigate drought stress. Tropical Dry Forests: Emerging Features and Ecological Perspectives. (Eds. Chaturvedi RK, Singh R., Bhadouria R.) Nova Science Publisher, New York, USA. ISBN. 978-1-53619-543-9 (ebook) pg. 367-383.
5. Pal DK, Mukherjee S, Nimse SB, Chandra KK. 2021. Medicinal Attribution of Ginsenoside: A Huge Source of Plant Bioactive Compound. In. Advanced Structured Materials Volume 140. Bioactive Natural Products for Pharmaceutical Applications. (Eds. Pal DK, Nayak AK), ISBN 978-3-030-54026-5, ISBN 978-3-030-54027-2 (eBook) Springer Nature. Switzerland.
6. Chandra KK, Kumar R, Baretha G. 2022. Tree benefits in urban environment and incidences of tree vandalism: a review for potential solutions. In Urban ecology and Global Climate

Change, First edition, edited by Bhadouria R, Singh P, Upadhyay S and Tripathi S., John Wiley & Sons Ltd. ISBN 9781119807186

Research Supervision

Name of Research Scholar	Title	Registration No. Date
Atul Kumar Bhardwaj	Investigation on growth responses of some forest tree species to symbiotic arbuscular mycorrhizal fungi inoculation in degraded entisol soil	135141502 dt 24.11.2014 Awarded on 10.7. 2019
Anish Kumar Singh	Acclimatization and adaptation of <i>Cordia macleodii</i> and <i>Soymida febrifuga</i> outside natural forest of Bilaspur, Chhattisgarh	185134503, dated 09.11.2020 Enrolment No. GGV/18/6176
Arun Kumar Sukla	Evaluation of the productive and protective functions of <i>Terminalia arjuna</i> (Roxb.) Wight & Arn in agroforestry systems along the Lilager river catchment in Chhattisgarh	185134511 dated 09.11.2020 Enrolment No. GGV/18/6177
Astha Singh	Influence of induced drought on tolerance pattern in some tree species of tropical deciduous forest of Chhattisgarh State	185134608 dated 09.11.2020 Enrolment No. GGV/18/6172
Gunja Baretha	Studies on Assisted Natural Regeneration of some forest tree species in Khondra forest, Bilaspur division, Chhattisgarh	185134503 dated 09.11.2020 Enrolment no. GSF/09/10

Administrative Responsibilities

- **Executive Council Member**, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur during 2016-2019. (No. 137/meeting cell/EC/2016 dt. 16.3.2016)
- **Academic Council Member**, Guru Ghasidas University since November 2021 (No. 175/meeting cell/2021 dated 28.10.2021)
- **Head**, Department of Forestry, Wildlife & Environmental Sciences, Since 24 November 2021
- **Nodal Officer**, Community Development Cell, GGV, Bilaspur, India
- **Nodal Officer**, Unnat Bharat Abhiyan, GGV Bilaspur, since October, 2016

- **Convenor**, University Campus cleaning and monitoring committee, GGV, Bilaspur (No. 2760/Est/Admin/2021 dated 9.9.2021)
- **Chairman**, Departmental Research committee (DRC), Department of Forestry, GGV
- **Member**, University Plantation Committee, GGV, Bilaspur, India
- **Member**, Result committee for the school of studies of Natural Resources for academic session 2021-22
- Centre Superintendent, End semester Examinations, GGV, Bilaspur. 2014 - 2018
- **Regional Coordinator**, National Environment Youth Parliament 2022 for zone I of Central Universities. Also attended the final events at Parliament, New Delhi.
- **Member**, Central Adhyayan Mandal, Chhattisgarh Government for Forestry Studies nominated by Honourable Governor of Chhattisgarh.
- **Member**, National Education policy (NEP) task force committee, GGV, Bilaspur (No. 71/Dev/2021 dated 6.10.2021)

Additional Information

- **Life member**, Indian association of Agroforestry, ICRAF, Jhansi, India
- **Member**, The Indian Science Congress Association, Kolkata, India

Krishna Kumar Chandra