

# Faculty Details proforma for DU Web-site



Designation   Associate Professor   Statistics   Department   Statistics   Department of Statistics, University of Delhi, Delhi-110007   Delhi, Delhi-110007   Delhi, Delhi-110007   Delhi, Delhi-110007   Delhi, Delhi-110007   Delhi, Delhi-110007   Designation   Designation   Duration   Statistics   Sumaun University, Nainital   Designation   Duration   Superation   Duration   Superation   Superation   Duration   Duration   Superation   Duration   Duration   Duration   Superation   Duration   Du	Title Dr.	First N	Name	Girish	Last	Name	Chandra		Photograph
Address (Campus)  Residence)  Residencentencentencentencentencentencentencentencentencentencentencente	Designation	Associa	ate Profe	essor					
Statistics University of Delhi, Delhi-110007   CResidence)   Delhi-110007   Del	Department	Statisti	ics						
Phone No (Campus) (Residence)optional Mobile Fax Email gchandra@stats.du.ac.in; girish.caepht@gmail.com Web-Page https://statistics.du.ac.in/- Education Subject Institution Year Details Ph.D. (Statistics) Kumaun University, Nainital M.Sc. (Statistics) Kumaun University, Nainital  M.Sc. (Statistics) Kumaun University, Nainital  B.Sc. with Statistics Kumaun University, Nainital  Career Profile Organisation / Institution University of Delhi, Delhi University of Delhi, Delhi Associate Professor Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehradun- cum-FRI Deemed Univ. College of Agricultural Engineering and Post- Harvest Technology (Central Agricultural University, Gangtok,	·	Statisti Delhi, Delhi-1	Statistics, University of Delhi, Delhi-110007						
(Residence)optional  Mobile Fax  Email gchandra@stats.du.ac.in; girish.caepht@gmail.com  Web-Page https://statistics.du.ac.in/-  Education  Subject Institution Year Details  Ph.D. (Statistics) Kumaun University, Nainital Sassessment and Control of Environmental Pollution  M.Sc. (Statistics) Kumaun University, Nainital Thesis topic: A systematic procedure for square random lattice sampling  B.Sc. with Statistics Kumaun University, Nainital Sassessment and Control of Environmental Pollution  M.Sc. (Statistics) Kumaun University, Nainital Sassessment and Control of Environmental Pollution  M.Sc. (Statistics) Kumaun University, Nainital Sassessment and Control of Environmental Pollution  M.Sc. (Statistics) Kumaun University, Nainital Sassessment and Control of Environmental Pollution  M.Sc. (Statistics) Kumaun University, Nainital Sassessment and Control of Present Sep 2023 to Present  University of Delhi, Delhi Associate Professor Sep 2023 to Present  University of Delhi, Delhi Associate Professor April 2022 Teaching and Research  University Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Assistant Professor Feb 2007 to March 2010  March 2010  Teaching and Research  Teaching and Research	(residence)	,		,		,			
Mobile   Fax   Email   gchandra@stats.du.ac.in; girish.caepht@gmail.com   Web-Page   https://statistics.du.ac.in/-   Education   Subject   Institution   Year   Details     Ph.D. (Statistics)   Kumaun University, Nainital   2009   Thesis topic: Contributions to Statistical Methods in Risk   Assessment and Control of Environmental Pollution     M.Sc. (Statistics)   Kumaun University, Nainital   2003   Thesis topic: A systematic procedure for square random lattice sampling     B.Sc. with Statistics   Kumaun University, Nainital   2001     Career Profile   Organisation / Institution   Designation   Duration   Role     University of Delhi, Delhi   Associate Professor   Sep 2023 to Present     University of Delhi, Delhi   Associate Professor   April 2022   to Sep 2023     Indian Council of   Scientist   March 2010 to April 2022     Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.   College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,   Feb 2007 to March 2010     University), Gangtok,   Contral Agricultural   Contral Contral Agricultural   Contral Co		+91-11	2766667	1					
Email   gchandra@stats.du.ac.in; girish.caepht@gmail.com									
Education   Subject   Institution   Year   Details	Fax								
Education   Subject   Institution   Year   Details		gchandr	a@stats.	.du.ac.in; gii	rish.caep	ht@gmai	il.com		
Education   Subject   Institution   Year   Details	Web-Page								
Ph.D. (Statistics)  Kumaun University, Nainital  M.Sc. (Statistics)  Kumaun University, Nainital  Career Profile  Organisation / Institution University of Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Kumaun University, Nainital  2003  Thesis topic: Contributions to Statistical Methods in Risk Assessment and Control of Environmental Pollution  Thesis topic: Contributions to Statistical Methods in Risk Assessment and Control of Environmental Pollution  Statistical Methods in Risk Assessment and Control of Environmental Pollution  Thesis topic: Contributions to Statistical Methods in Risk Assessment and Control of Environmental Pollution  Thesis topic: Contribution to Statistical Methods in Risk Assessment and Control of Environmental Pollution  Thesis topic: Contribution to Statistical Methods in Risk Assessment and Control of Procedure for square random lattice sampling  Role  Teaching and Research  Teaching and Research and Teaching  Teaching and Research  Teaching and Research  Teaching and Research  Teaching and Research	_	I							
Nainital   Statistical Methods in Risk Assessment and Control of Environmental Pollution	Subject	Institu	ition			Year		Det	ails
Assessment and Control of Environmental Pollution  M.Sc. (Statistics)  Kumaun University, Nainital  B.Sc. with Statistics  Kumaun University, Nainital  Career Profile  Organisation / Institution  University of Delhi, Delhi  University of Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Akumaun University, 2001  Duration  Role  Teaching and Research  Teaching and Research  April 2022  Teaching and Research  March 2010 to April 2022  Teaching and Research	Ph.D. (Statistics)	Kuma	aun Un	iversity,		2009		The	esis topic: Contributions to
Environmental Pollution		Naini	tal						
M.Sc. (Statistics)  Kumaun University, Nainital  B.Sc. with Statistics  Kumaun University, Nainital  Career Profile  Organisation / Institution  University of Delhi, Delhi  University of Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Kumaun University, Nainital  2001  Thesis topic: A systematic procedure for square random lattice sampling  Role  Sep 2023 to Pesent  April 2022  to Sep 2023 to Present  April 2022  Teaching and Research  Research and Teaching  Teaching and Research  Assistant Professor  Feb 2007 to March 2010  March 2010  Teaching and Research  Teaching and Research									
B.Sc. with Statistics   Kumaun University, Nainital   2001    Career Profile   Organisation / Institution   Designation   Duration   Role    University of Delhi, Delhi   Associate Professor   Sep 2023 to Present    University of Allahabad, Prayagraj   Associate Professor   April 2022   to Sep 2023    Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.   College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,   Associate Professor   Feb 2007 to March 2010    Indian Council of Feb 2007 to March 2010   Teaching and Research   Assistant Professor   Feb 2007 to March 2010    Teaching and Research   Teaching and Research   Teaching and Research   Teaching   Teaching	750 (0. 4.4.)								
B.Sc. with Statistics   Kumaun University, Nainital   2001    Career Profile   Organisation / Institution   Designation   Duration   Role    University of Delhi, Delhi   Associate Professor   Sep 2023 to Present    University of Allahabad, Prayagraj   Associate Professor   April 2022   to Sep 2023    Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.   College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,   Associate Professor   Feb 2007 to March 2010    Indian Council of Feb 2007 to March 2010   Teaching and Research   Assistant Professor   Feb 2007 to March 2010    Indian Council of Feb 2007 to March 2010   Teaching and Research   Assistant Professor   Feb 2007 to March 2010    Indian Council of Feb 2007 to March 2010   Teaching and Research   Assistant Professor   Feb 2007 to March 2010    Indian Council of Feb 2007 to March 2010   Teaching and Research   Assistant Professor   Teaching and Research   Teaching and R	M.Sc. (Statistics)			iversity,		2003			
B.Sc. with Statistics   Kumaun University, Nainital   2001    Career Profile   Organisation / Institution   Designation   Duration   Role    University of Delhi, Delhi   Associate Professor   Sep 2023 to Present    University of Allahabad, Prayagraj   Associate Professor   April 2022   to Sep 2023    Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.   College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,   Assistant Professor   Teaching and Research    Teaching and Research and Teaching   Teaching and Research   Teaching and Research    Teaching and Research   Teaching and Research   Teaching and Research    Teaching and Research   Teaching and Research   Teaching and Research   Teaching   Teaching	Nair		tai					•	-
Nainital   Career Profile	R Sc with Statistics   Kun		aun Un	iversity.		2001		тан	ce sampling
Organisation / Institution University of Delhi, Delhi University of Delhi, Delhi Associate Professor University of Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ. College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Duration Role Teaching and Research Teaching and Research  March 2012 to Sep 2023  Research and Teaching Feb 2007 to March 2010  Teaching and Research									
University of Delhi, Delhi  University of Associate Professor  University of Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  College of Delhi, Delhi  Associate Professor  April 2022  Teaching and Research  March 2010 to April 2022  Feb 2007 to March 2010  Teaching and Research	Career Profile								
University of Associate Professor April 2022 to Sep 2023  Indian Council of Forestry Research and Education, Dehraduncum-FRI Deemed Univ.  College of Agricultural Engineering and Post-Harvest Technology (Central Agricultural University), Gangtok,  Present  April 2022 Teaching and Research  March 2010 to April 2022  Feb 2007 to March 2010  Teaching and Research  Teaching and Research  Teaching and Research	Organisation / Institution	on	Design	ation		Duratio	on	Rol	e
Allahabad, Prayagraj  Indian Council of Forestry Research and Education, Dehradun- cum-FRI Deemed Univ.  College of Agricultural Engineering and Post- Harvest Technology (Central Agricultural University), Gangtok,  Research and Teaching April 2022  Feb 2007 to March 2010  Teaching and Research March 2010	University of Delhi, D	elhi	Associa	ate Profes	sor	-		Tea	ching and Research
Forestry Research and Education, Dehradun- cum-FRI Deemed Univ.  College of Agricultural Engineering and Post- Harvest Technology (Central Agricultural University), Gangtok,  April 2022  Feb 2007 to March 2010  Teaching and Research	_		Associa	ate Profes	sor	to Sep	2022	Tea	ching and Research
Education, Dehradun- cum-FRI Deemed Univ.  College of Agricultural Engineering and Post- Harvest Technology (Central Agricultural University), Gangtok,  Teaching and Research March 2010			Scienti	ist				Research and Teaching	
cum-FRI Deemed Univ.Assistant ProfessorFeb 2007 to March 2010Teaching and ResearchEngineering and Post-Harvest Technology (Central Agricultural University), Gangtok,March 2010						April 2	2022		
College of Agricultural Engineering and Post- Harvest Technology (Central Agricultural University), Gangtok,  Assistant Professor Feb 2007 to March 2010  Teaching and Research									
Engineering and Post- Harvest Technology (Central Agricultural University), Gangtok,			<b>A</b> • 4	4 D. C		E-1-20	07.4-	<b>T</b>	
Harvest Technology (Central Agricultural University), Gangtok,			Assista	ant Profess	sor			Tea	cning and Kesearch
(Central Agricultural University), Gangtok,		-				warch	2010		
University), Gangtok,									
	• • • • • • • • • • • • • • • • • • • •								

#### Research Interests / Specialization

## Sampling Methods, Probability Theory, Forestry Statistics, Applied Statistics

#### Teaching Experience (Subjects/Courses Taught)

# Following papers were taught at UG/PG/Ph.D. level

Sampling Methods; Measure and Probability Theory; Estimation Theory; Statistical Inference; Forestry Statistics; Applied Statistics; Mathematical Statistics.

#### Publications (Books and Edited Books)

- 1. Anjoy, P., Kumar, K., Chandra, G. and Gaikwad, K. (2024). Genomic Data Analysis for Crop Improvements. Springer.
- 2. Latpate, R. Kshirsagar, J., Gupta, V. K. and Chandra, G. (2021). Advanced Sampling Methods. Springer
- 3. Hanagal, D., Latpate, R. and Chandra, G. (Eds) (2022). Applied Statistical Methods. Springer.
- Chandra, G., Nautiyal, R. and Chandra, H. (Eds.) (2020). Statistical Methods and Applications in Forestry and Environmental Sciences. Forum for Interdisciplinary Mathematics. Springer.
- 5. Nautiyal, R. and Chandra, G. (Eds.) (2020). Forest Sector Report India 2019. *Indian Council of Forestry Research and Education*, Dehradun, India.
- Rawat, R. S., Arora, G., Rawat, V. R. S., Borah, H. R. Singson, M. Z., Chandra, G., Nautiyal, R. and Rawat, J. (2018). Estimation of Biomass and Carbon Stock of Bamboo Species through Development of Allometric Equations. *Indian Council of Forestry Research and Education*, Dehradun, India.
- 7. Chandra, G., Nautiyal, R., Chandra, H., Roychoudhury, N. and Mohammad, N. (Eds.) (2015): Statistics in Forestry: Methods and Applications. *Bonfring Publication*. Coimbatoor.

#### Publications (Research Papers)

- Tiwari, N., Banerjie, J., Chandra, G. and Bhari, S. (2023). Adaptive Cluster Sampling Based on Balanced Sampling Plan Excluding Contiguous Units, *Communications in Statistics: Theory and Methods*.
- Dabral, A., Shankhwar, R., Martins-Ferreira, M.A.C., Pandey, S., Kant, R., Meena, R.K., Chandra, G., Ginwal, H.S., Thakur, P.K., Bhandari, M.S.; et al. (2023). Phenotypic, Geological, and Climatic Spatio-Temporal Analyses of an Exotic *Grevillea robusta* in the Northwestern Himalayas, *Sustainability*.
- Ansari, T., Chandra, G., Gupta, P.K., Joshi, G. and Rana, V. (2023). Synthesis of pine needle cyanoethyl cellulose using Taguchi L25 orthogonal array, *Industrial Crops & Products*, 191(B).
- Tiwari, N., Chandra, G. and Nautiyal, R. (2023). Favourable allocation models for symmetric distributions in ranked set sampling. *Journal of the Indian Society of Agricultural Statistics*.
- Prabhu, P., Gowda, P. and Chandra, G. (2023). Effect of *Prana vidya* practices on cognitive abilities of adolescents: A randomized control trial. *Journal of Applied Conscious Study*, 11(1), 12-21.
- Kumar, A., Kumar, J. and Chandra, G. (2022). Effect of defoliation on tree growth of *Populus deltoides Bartr.* ex Marsh in India, *Current Science*, 123(10), 1268-1273.
- Bhoj, D. S. and Chandra, G. (2022). Ranked set sampling with varied order statistics for skew distribution. *Model Assisted Statistics and Applications*, 17(3), 161-166.
- Prabhu, P., Gowda, P. and Chandra, G. (2022). Effect of *Prana vidya* practices on intelligence quotient and performance quotient of adolescents: A randomized control trial. *Journal of Applied Conscious Study*, 10(2), 124-133.
- Pandey, S., Nautiyal, R. Kumar, P., Chandra, G. and Panwar, V. (2022). A grey relational model for soil erosion vulnerability assessment in sub watershed of lesser Himalayan region, *CATENA*, 210., 105928.

- Bisht, S.S., Mishra, K., Pandey, K.K., Chandra, G., Nayak, M. and Shashikala, S. (2022). Chromatographic and spectrophotometric analysis of heartwood extracts of four *Pterocarpus* species, *Wood Science and Technology*, 56, 459-476.
- Bisht, S. S., Kumar, D. and Chandra, G. (2021). Variation in essential oil gland density, yield and composition of aerial parts of *Eucalyptus tertecornis Sm.* and *Eucalyptus camaldulensis Dehnh.*, *Journal of Essential Oil Bearing Plants*, 24(5), 998-1009.
- Nautiyal, R., Tiwari, N. and Chandra, G. (2021). Quantile estimation using near optimal unbalanced ranked set sampling. *Communications for Statistical Applications and Methods*, 28(6), 645-655.
- Nautiyal, R., Tiwari, N. and Chandra, G., Kershaw, J.A. and Shaktan, T. (2021). Alternate ranked set sampling for skewed and mound shaped symmetric distributions: Accounting for forestry and environmental research. *Mathematical and Computational Forestry and Natural Resource Sciences*, 13(2), 14-26.
- Chandra, G., Tiwari, N. and Nautiyal, R. (2021). Adaptive cluster sampling-based design for estimating Corona COVID-19 cases with random samples, *Current Science*, 120(7), 1202-1210.
- Giri, K., Chandra, G., Jayraj, RSC, Borah, R.K., Kardong, P, Borah, S. and Goswami, A.K. (2021). Regression models for estimating stem volume of *Aquilaria malaccensis* (Lamk.) in North East India. *Environmental Challanges*, 5, 1-6.
- Kumar, A., Chandra, G. and Singh, K.P. (2021). Relative infestation intensity of bamboo leaf roller, algedonia coclesalis on different bamboo species in Ranchi region. *Indian Forester*, 147(5), 496-499.
- Bisht, S. S., Chandra, G. and Pandey, K. K. (2021). Simple and rapid FTIR spectral data and chemometric analysis-based method for evaluation of the quality of Indian Sandalwood oils, *Journal of Essential Oil Research*, 33(4), 376-384.
- Bhoj, D. S. and Chandra, G. (2021). Ranked set sampling with lowest order statistics for Pareto distribution. Communications in Statistics: Simulation and Computation.
- Saha, R., Ginwal, H.S., Chandra, G. and Barthwal, S. (2021). A comparative study on grey relational analysis and C5.0 classification algorithm on adventitious rhizogenesis of *Eucalyptus*. *Trees*, 35, 43-52.
- Saha, R., Ginwal, H.S., Chandra, G. and Barthwal, S. (2020). Root distribution, orientation and root length density modelling in Eucalyptus and evaluation of associated water use efficiency. *New Forests*, 51, 1023-1037.
- Bisht, S.S., Chandra, G., Ravindra, M. and Kumar, R. (2020). Evaluation of chemical and physical properties of commercial sandalwood essential oils and their comparison with essential oil extracted from *Santalum album L, Journal of Essential Oil Bearing Plants*, 23(2), 345-355.
- Bhoj, D. S. and Chandra, G. (2019). Simple unequal allocation procedure for ranked set sampling with skew distributions, *Journal of Modern Applied Statistical Methods*, 18(2), eP2811.
- Chandra, G., Jain, A. and Kumar, S. (2020). Logit application model for valuating intangible benefits from the afforested areas, *Journal of Forestry Economics Review*, 2(1), 33-42.
- Kumar, A., Chandra, G. and Kumar, S. (2019). Estimating bark eating caterpillars *Indarbela quadrinotata* (walker) in *Populous deltoides* using ranked set sampling, *Indonesian Journal of Applied Statistics*, 3(1), 1-11.

- Saha, R., Ginwal, H.S., Chandra, G. and Barthwal, S. (2019). Integrated assessment of adventitious rizogenesis in *Eucalyptus*: Root quality index and rooting dynamics, *Journal of Forestry Research*, 31, 2145-2161.
- Bhandari, M.S., Meena, R.K., Shankhwar, R., Chandra, G. et al. (2019). Prediction Mapping Through Maxent Modeling Paves the Way for the Conservation of Rhododendron arboreum in Uttarakhand Himalayas. Journal of the Indian Society of Remote Sensing, 48, 411-422.
- Chandra, G., Tiwari, N. and Nautiyal, R. (2019). Two stage adaptive cluster sampling based on ordered statistics, *Metodoloski Zvezki* (*Advances in Methodology and Statistics*), 16(1), 43-60.
- Tiwari, N., Chandra, G. and Nautiyal, R. (2019). Ranked set sampling: A review with new initiative on extreme ranked set sampling, *Statistics and Applications*, 17(1), 121-139.
- Bhandari, M.S. and Chandrag, G. National Workshop on 'recent Advances in Statistical Methods and Applications. In Forestry and Environmental Sciences 2018. *Indian Forester*, 144(12), 1232-1233.
- Uniyal, K., Chandra, G., Khan, R. U. and Singh, Y. P. (2018). Selection of potent pathogenic isolates from a population of *Alternaria alternata*, a leaf spot pathogen of poplar. *American Journal of Applied Mathematics and Statistics*, 6(6), 232-238.
- Chandra, G., Bhoj, D. S. and Pandey, R. (2018). Simple unbalanced ranked set sampling for mean estimation of response variable of developmental programs, *Journal of Modern Applied Statistical Methods*, 17(1). Article 28.
- Chandra, G., Pandey, R., Bhoj, D. S., Nautiyal, R., Ashraf, J. and Verma, M. R. (2018). Ranked set sampling approach for response estimation of developmental programs with linear impacts under successive phases, *Pakistan Journal of Statistics*, 34(2), 163-176.
- Debnath, P., Pattanaaik, S.K., Sah, D., Chandra, G. and Pandey, A.K. (2018). Effect of boron and zinc fertilization on growth and yield of cowpea (*Vigna unguiculata* Walp.) in inceptisols of Arunachal Pradesh, *Journal of the Indian Society of Soil Science*. 66(2), 229-234.
- Chandra, G. and Tiwari, N. (2017). A systematic procedure for square random lattice sampling, *Journal of Mathematics and Statistics*, 13(3), 231-239.
- Jain A., Chandra, G. and Nautiyal, R. (2017). Valuating intangible benefits from afforested areas: A case study in India, Economía Agraria y Recursos Naturales, 17(1), 89-100.
- Kumar, A. and Chandra, G. (2017). Insect pest infestation on *Gmelina arborea* Roxb. in different agroclimatic zones of Jharkhand, India, *Arthropods*, 6(1), 8-20.
- Chandra, G., Tiwari, N., Nautiyal, R. and Gupta, D. S. (2016). On Partial Ranked Set Sampling in parameter estimation of lognormal distribution. *International Journal of Statistical and Agricultural Sciences*, 12(2), 321-326.
- Chandra, G., Nain, NPS, Prakasham U, Khatri, P.K. and Singh, K (2015): On Seed Collection Levels in Various Types of Shorea Robusta Forest in Hill and Plain Agro-climatic Zones of Central India. International Journal of Statistics and Analysis. 5(1), 1-13.
- Debnath, P., Pattanaaik, S. K., Sah, D., Pandey, A. K., Sen, D., Chandra, G. and Ghosh, S. K. (2015). Response of boron and zinc fertilization to productivity of rice in piedmont soil of Arunachal Pradesh. *International Journal of Agriculture, Environment and Biotechnology*, 8(4), 907-914.
- Chandra, G. and Nautiyal, R. (2015). On statistical methods in forestry research. Van Sangyan, 2(4), 37-42.

- Chandra, G. and Nautiyal, R. (2015). An overview of adaptive cluster sampling in estimating rare species. *Van Sangyan*, 2(2), 9-16.
- Chandra, G., Tiwari, N. and Singh, S.K. (2014): A generalized approach on ranked set sampling theory for large set size. *Journal of the Indian Society of Agricultural Statistics*, 68(1), 55-65.
- Chandra, G. and Tiwari, N. (2012). Estimation of location and scale parameters of lognormal distribution using ranked set sampling. *Journal of Statistics and Applications*, 7(3-4), 139-152.
- Chandra, G., Tiwari, N. and Chandra, H. (2011). Adaptive cluster sampling based on ranked sets, *Metodoloski Zvezki*, 8(1), 39-55.
- Chandra, G., Tiwari, N. and Singh, S.K. (2011). Near optimal allocation model for skewed distributions in ranked set sampling. *International Journal of Statistics and Systems*, 6(1), 57–65.
- Tiwari, N. and Chandra, G (2011). A systematic procedure for unequal allocation for skewed Distributions in Ranked Set Sampling. *Journal of the Indian Society of Agricultural Statistics*, 65(3), 331-338.
- Debnath, P., Chandra, G. and Ghosh, S. K. (2009). Critical limit of available boron for rice under red and leterite zone of West Bengal, India. *SAARC Journal of Agriculture*, 7(1), 99-105.

# **Articles in the Edited Books:**

- Malakar, A., Chandra, G. and Barthwal, S. (2023). Tree genome databases: a new era in the development of cyber-infrastructures for forest trees. In: Genomic Data Analysis for Crop Improvements, Springer.
- Uniyal, K., Chandra, G., Khan, R.U. and Singh, Y.P (2022). Grey relational analysis for the selection of potential isolates of *Alternaria Alternata* of poplar. In: Applied Statistical Methods, Springer Proceedings in Mathematics and Statistics, Springer Nature.
- Chauhan A.S., Chandra G., Singh Y.P. (2020). Statistics in Indian forestry: A historical perspective. In: Statistical Methods and Applications in Forestry and Environmental Sciences. Springer, Singapore.
- Chandra H., Chandra G. (2020). Small area estimation for total basal cover in the state of Maharashtra in India. In: Statistical Methods and Applications in Forestry and Environmental Sciences. Springer, Singapore.
- Nautiyal, R. and Chandra, G. (2017): Resource overview on bamboo conservation, management and utilization in India. In, Bamboo conservation, Management and Utilization in India: A Status Report. ICFRE Publication, Dehradun.
- Chandra, H., Sud, U. C. and Chandra, G. (2015): Importance of statistical software in survey data analysis. In: Statistics in Forestry: Methods and Applications. Coimbatoor: *Bonfring Publication*.
- Chandra, H. and Chandra, G. (2015): An Overview of small area estimation techniques. In: Statistics in Forestry: Methods and Applications. Coimbatoor: *Bonfring Publication*.
- Chandra, G., Tiwari, N. and Nautiyal, R. (2015): Near optimal allocation models for symmetric distributions in ranked set sampling. In: Statistics in Forestry: Methods and Applications. Coimbatoor: Bonfring Publication.
- Kulkarni, N., Roychoudhary, N. and Chandra, G. (2015): Probit analysis for toxicological experiments against forest insect pests. In: Statistics in Forestry: Methods and Applications. Coimbatoor: Bonfring Publication.

Chandra, G. and Tiwari, N. (2012). Ranked set sampling theory for large set size with probability proportional to rank size matrix. In: *Interface between Statistics, Mathematics and Allied Sciences*, Excel India Publishers, New Delhi.

Chandra, G., Tiwari, N. and Nautiyal, R. (2016): Assessment of non-timber forest products in India. In: *Statistical and Mathematical Sciences and Their Application*, New Delhi, Narosa Publication.

Tiwari, N., Pandey, G. S. and Chandra, G. (2015): Estimation of location and scale parameters of normal distribution using ranked set sampling. In: Statistics in Forestry: Methods and Applications. Coimbatoor: *Bonfring Publication*.

Verma, M. R., Pandey, R., Chandra, G. and Agnihotri, R.K. (2017). Sample allocation procedure for assessment of impact of development programme under joint effect of linear and exponential phases, In Proceedings of the Conference on "Recent Statistical Computing Techniques and their Applications" in Special Issue of Engineering and Scientific International Journal, 10-13.

#### Awards/ Grants/Fellowships received

SN	Fellowship/Award Name	Name of the Academic body/Association
1.	International Cochran-Hansen Award	International Statistical Institute, the Netherlands  Given during World Statistics Congress 2017 at Morocco
2.	National ICFRE Outstanding Research Award	Ministry of Environment, Forest and Climate Change, Gol  Given during World Forestry Day 2019
3.	Young Scientist Award in Math., Stat. & Comp. Sc.	UCOST, Government of Uttarakhand (2016)
4.	Adjunct Faculty in Sampling	Uttar Banga Krishi Vishwavidhyalaya, CoochBehar
5.	Travel Grant Assistance (Morocco)	World Bank
6.	Travel Grant Assistance (Slovenia)	Ministry of Statistics and Program Implementation, GOI.
7.	National Eligibility Test (NET)	Qualified in Mathematical Sciences by CSIR

## Research and Consultancy Projects

S.	Title	<b>Funding Agency</b>	Period	Grant
No.	(as Principal Investigator (PI)/Co-PI/Nodal Officer)		(in months) (Status)	(in Rs.
			(Status)	lakh)
1.	All Indian Coordinated Project "Assessment of	MoEFCC, GOI	36	143.75
	demand and supply of timber, fuel-wood and fodder in India" (As National Project Coordinator and PI)		(Till 11.04.2022)	
2.	All Indian Coordinated Project "Valuation of	MoEFCC, GOI	48	315.60
	forests for GDP, Green GDP and Payment of eco-system goods and services" (As PI)		(Till 11.04.2022)	
3.	Development of Regression Models, Volume,	Manipur State Forest	6	3.85
	Biomass and Carbon Tables for <i>Quercus serrata</i> and <i>Pinus khasiana</i> in Manipur State (As co-PI)	Department, Imphal	(Completed)	

4.	Non-detrimental finding study of <i>Boswellia</i> spp. in India (As Co-PI)	Wild life division, MoEFCC, GOI	6 months (Completed)	18.00
5.	Non-detrimental finding study of <i>Pterocarpus marsupium</i> in India (As Co-PI)	Wild life division, MoEFCC, GOI	6 months (Completed)	18.00
6.	Forestry Sector Report-2018 (As Co-PI)	MoEFCC, GOI	9	34.00
			(Completed)	
7.	Standardization of Plantation Techniques in	State Forest	60	22.22
	Madhya Pradesh (As Co-PI)	Department of Madhya Pradesh, India	(Completed, involved till Sep 2013)	
8.	Reassignment of forest types of India	ICFRE, Dehradun	24	40.00
	(As Team leader for Maharashtra States)		(Completed)	
9.	A Sample Survey for Pulp, Paper and plyboard (including hardboard) of India (As PI for central India)	International Tropical Timber Organization, Japan	6 (Completed)	0.73
10.	Preparation and Publication of Forestry Statistics India 2011 (As PI for central India)	ICFRE, Dehradun	22 (Completed)	6.00
11.	Identification of Extents of Forest Lands and in	Ministry of	42	629.00
	the forest Fringe Villages (As Team leader for Maharashtra and Chhattisgarh States	Agriculture, GOI	(Completed)	
12.	Forestry Sector Report-2010 (As PI for central	Ministry of	24	32.00
	India)	Environment and Forest, GOI	(Completed)	
13.	Assessment of Green Cover, its Tangible and	National Thermal	36	12.49
	Intangible Benefits and Tree Cover Management Plan for NCPP Dadri Project (As Co-PI)	Power Corporation Limited	(Completed)	
14.	Assessment of Green Cover and its Tangible and	National Thermal	36	20.00
	Intangible Benefits and Tree Cover Management Plan for KSTPC Project (As Co- PI)	Power Corporation Ltd	(Completed)	

Con	ference Presentations:			
<b>SN</b> 1.	Title of the paper Statistical Methods in Environmental Studies using R	Conference Name Statistical Methods in Environmental Studies using R software	Organized by G. B. Pant National Institute of Himalayan Environment, Sikkim (March 01-03, 2023)	<b>Level</b> National
2.	Multi-Criteria Decision Making Approaches: Some Case Studies	Integrated Approaches of Stochastic Modelling and Data Science for Sustainable Development	Indian Society of Probability and Statistics (Sep 7-11, 2022)	International
3.	Weighted Ranked Set Sampling for Skew Distributions	_	Indian Society of Agricultural Statistics (Nov 14-16, 2022)	National
4.	Pharmaceutical Data Analysis	Recent Advancements in Pharmaceutical Sciences: Research to Revenue	Pharmacy, Naini Prayagraj (May 16-20,	National
5.	Ranked set sampling with lowest order statistics (RSSL) for skew distribution	Statistical Techniques in Business and Industry	CUSAT, Cochi 28th - 30th Dec 2020	International
6.	Unbalanced ranked set sampling for Skewed Distribution		Pune University and Society of Statistics and Computer Application	National
7.	Simple unbalanced ranked set sampling for mean estimation of response variable of developmental programs	Statistics for Better Future	Rajasthan Statistical Association	National
8.	Two stage adaptive cluster sampling based on ordered statistics	World Statistics Congress 2017	International Statistical Institute and its Associations (Marrakech, Morocco)	International
9.	Ranked set sampling approach for estimating response of developmental programs with linear impacts under	World Statistics Congress 2017	International Statistical Institute and its Associations	International

	successive phases		(Marrakech, Morocco)	
10.	Adaptive Cluster Sampling Based on Ranked Sets	Applied Statistics-2010	Statistical Society of Slovenia (Ribno, Slovenia)	International
11.	Near optimal allocation model for skewed distributions in ranked set sampling	Statistics, Probability, Operation Research, Computer Science and Allied Areas (Vishakhapatannam, Andhra Pradesh)	Andhra University (Vishakhapattanam, India)	International
12.	On ranked set sampling allocation models for symmetric distributions	International Workshop on Environmental Statistics	Statistical and Mathematical Science Institute and Indian Statistical Institute, Kolkata, India (Kolkata, India)	International
13.	Simple unbalanced ranked set sampling for mean estimation of response variable of developmental programs	Statistics for Humanities and Social Sciences: Statistics for A Better Future	Rajasthan Statistical Association at Jaipur (Sep 04-05, 2018)	National
14.	Willingness-to-Pay estimation for selected intangible socioeconomics due to Plantations in and around a power Plant of India	Annual National Conference of Society of Statistics, Computer and Application 2017	Society of Statistics and Computer Applications and SKAUST, Jammu, India	National
15.	Two stage adaptive cluster sampling based on ordered statistics		Uttarakhand Council of Science and Technology, Dehradun, India	State
16.	Estimation of location and scale parameters of lognormal distribution using ranked set sampling	Indian Forestry Congress	Indian Council of Forestry Research and Education, Dehradun (New Delhi, India)	National
17.	Assessment of non-timber forest products in India: an adaptive cluster sampling approach	Recent advances of Statistical and Mathematical Sciences and Their Applications	Kumaun University, Nainital, India	National
18.	On adaptive cluster sampling in forestry research: an overview	Role of Statistics, Computer and	Society of Statistics and Computer	National

		Application in Women Empowerment	Application (Mahila Vishwavidhalya, Sonipat, India)
19.	Ranked Set Sampling Theory for Large Set Size with Probability Proportional to Rank Size Matrix	Mathematics, Statistics and Computer Science	Kumaun University National Nainital, India (Almora, India)
20.	On sampling methodology for assessing important non timber forest products of India	Uttarakhand State Science and Technology Congress	Uttarakhand Council State of Science and Technology, Dehradun, India

#### **Workshops attended:**

- **2019:** *International Conference on Agricultural Statistics* (November 18-22, 2019): at Indian Agricultural Research Institute, Pusa, New Delhi funded by EUROSTAT
- **2017:** Training on **Practical Bayes for Beginners** (July 13-14, 2017): at Medicine University, Marrakech, Morocco, organized by International Statistical Institute.
- 2017: Workshop on ISI-Young Statistician Workshop (July 16, 2017): at Palais des Congres, Marrakech, Morocco, organized by International Statistical Institute
- 2014: Training on Data Analysis for Tree Volume, Biomass and Carbon Stock Assessment (Nov 10-13, 2014): at Kerala Forest Research Institute, Peechi, Kerala, organized by Food and Agricultural Organization and Kerala Forest Research Institute.
- 2014: Training on Climate Change and Carbon Mitigation (Feb 22-26, 2017): at Indian Council of Forestry Research and Education, Dehraudn, India
- **2012**: Annual workshop on **National Knowledge Network** (Oct 31-Nov 02, 2012): at Indian Institute of Technology, Bombay.
- **2013**: Annual Workshop on **IUIM Meet** (March 11-12, 2013): at Indian Institute of Remote Sensing, Dehradun.
- **2011**: National Workshop on **Non Timber Forest Products Marketing: Issues and Strategies** (Feb 19, 2011): at TFRI, Jabalpur.
- **2011:** Workshop-cum-Training Programme on **Environment and Afforestation** (March 22-24, 2011): at TFRI, Jabalpur.
- **2012:** Technical workshop on **National Knowledge Network** (March 21, 2012): at RCVP Noronha's Academy of Administration, Bhopal.
- **2011: Induction Training for Scientists and Research Officers** of ICFRE, (March 21-May 27, 2011): at FRI Deemed University, Dehradun
- **2009: Recent Advances in Sampling Methodology**, (Feb 10-March 02, 2009): at Indian Agricultural Statistics Research Institute, Pusa, New Delhi.

#### Conferences/ Session of conferences Organized

- 2019: Organized an Invited Paper Session "Significance of Ranked Set and Adaptive Cluster Sampling in Forestry and Environmental Research" for 62<sup>nd</sup> WSC 2019, Kualalumpur, Malaysia (Session Organizer)
- **2018:** Organized a national Workshop "Recent Advances in Statistical Methods and Application in Forestry and Environmental Sciences" at Indian Council of Forestry Research and Education,

Dehradun, India (Organizing Secretary).

- 2014: Organized a session Forestry and Environmental Statistics during the national conference "Recent Advances in Statistical and Mathematical Sciences and their Applications" organized by Department of Statistics, Kumaun University, Nainital (Chairman and Session Organizer)
- 2013: Organized a national seminar "Recent Advances in Applied Statistics and its Application in Forestry" at Tropical Forest Research Institute, Jabalpur, Madhya Pradesh, India (Organizing Secretary).

#### **Professional Societies Memberships**

Regular member of International Association of Survey Statisticians

Regular member of International Statistical Institute

Life member of Indian Society of Agricultural Statistics

Life member of International Indian Statistical Association

Life member of Computational and Methodological Statistics

Life member of Indian Society for Probability and Statistics

#### Other Details

## Supervision (Supervisor/Co-supervisor) of Completed/Ongoing Ph.D. Students

- Contributions of Ranked Set Sampling and Adaptive Cluster Sampling in Forestry Research, Kumaun University (awarded)
- 2. Clonal Variations in rooting dynamics and root architecture of *Eucalyptus tereticornis* and *Eucalyptus Camaldulensis*, FRI (Deemed) University (awarded)
- 3. Analysis of Genetic Diversity and Efficacy of Biocontrol Agents on Growth Parameters in *Grevillea robusta* A. Cunn., FRI (Deemed) University (awarded)
- Effect of Shifting Cultivation on Forest Cover Change and Soil Characteristics of Serchhip District, Mizoram, FRI (Deemed) University (submitted)
- 5. Valuation of Selected Forest Ecosystem in High Sensitive Zones of Uttarakhand, FRI (Deemed) University (submitted)
- 6. Small Domain Estimation Approach for Important Forestry Attributes in India based on Survey and SAR Data, FRI (Deemed) University (ongoing)
- 7. Effect of Prāṇa Vidyā on Cognitive Abilities; Āgya Cakra, of Adolescents, Patanjali University (awarded)
- 8. Development of Unique Sex Associated DNA Markers for Medicinally Important Himalayan Species *Myrica esculenta*, FRI (Deemed) University (ongoing)
- 9. The organic carbon distribution in the soil plant system in Keibul Lamjao National Park, Manipur, FRI (Deemed) University (ongoing)

## Mentoring Women Scientist Under Department of Science and Technology

Supervised two women scientists under WOS B scheme of DST at ICFRE, Dehradun (total project amount Rs. 36 lakh)

# Administrative Responsibilities

Responsibility
Resident Director, Van Vigyan

Organization
ICFRE, Dehradun, India

Bhawan, New Delhi (Apr 2017 to Jan

2018)

Course Coordinator, Ph.D. Students FRI (Deemed) University, Dehradun, India

(2016-2017)

Head, Department of Statistics, Tropical Forest Research Institute, Jabalpur

Computer and IT (Mar 2012 to Sep 2013)

#### Member of Board of Studies/Academic Committee

**Committee** Organization

Member, Academic Council FRI (Deemed) University, Dehradun

Expert Member, Research Advisory Tropical Forest Research Institute, Jabalpur

Group meeting committee

Expert Member, ICFRE, Dehradun

National Research Policy

Committee, ICFRE

Expert Member, Research Advisory FRI (Deemed) University, Dehradun

Committee

(Signature of Faculty Member)