Faculty Profile: For University Website

DEPARTMENT OF CIVIL ENGINEERING

Personal Information	Dr. Birendra Bharti Department of Civil Engineering Mobile: 8084061542 Email Id: birendra.bharti@cuj.ac.in Orcid id: 0000-0001-7521-6752 Scopus Author ID: 55650117500 Web of Science: AHB-4728-2022 GoogleScholar: https://scholar.google.co.in/citations?user=Kz7PP7AAAAAJ&hl=hi	
Educational Qualification:	• Ph. D. (2016), Indian Institute of Technology, Roorkee • M. Tech. (2009), Indian Institute of Technology, Kharagpur	
Courses Taught:	• Advance Numerical Method • Modeling in Water Resources • System Analysis Techniques • Engineering Mechanics • Mechanics of Solids • Engineering Geology • Water Resources Planning and Management	
Professional /Administrative Experience:	• Assistant Professor: Department of Water Engineering and Management. Central University of Jharkhand, July 28, 2011 – till –date.	
Research Area:	• Hydrological modelling, Hydrologic Predictions using AI/ML, Applications of RS and GIS in Water Resource Engineering and Water Resources Systems.	
Research Guidance:	• Ph. D.: 04(Submitted: 02; Pursuing: 02), Awarded M. Tech: 52, B. Tech.: 40	
Brief introduction:	Dr. Birendra Bharti is actively involved in teaching and Research activities. Dr. Bharti has a considerable teaching and research experience of around twelve years in various capacities at different levels. He has made immense contributions in the areas of Hydrological modeling, Applications of RS and GIS in Water Resource Engineering and Hydrologic Predictions by using AI/ML. He has published research articles in different SCI journals of international and national repute and book chapters. The four students are Ph.D. Pursuing, fifty two M. Tech. students have been awarded under his	

	guidance. Many more are still pursuing projects or thesis dissertations under him and one research project is going on.
Project (Completed/ Ongoing)	• R&D Study to Conduct Mathematical and Physical Hydraulic Modelling Studies for Finalizing Desired Piano Key Weir Configurations for Asolamendha Dam Project, 2-year, Gosikhurd National Project, Chandrapur, Maharashtra, Amount- 8850000/- Principal Investigator (PI).
Articles Published/ Accepted:	1. Kumar, V., Bharti, B., Singh, H. P., Singh, A., and Topno, A. R. 2024. Prediction of volatility and seasonality vegetation by using the GARCH and Holt-Winters models. Environmental Monitoring and Assessment, 196(3), 1-18. 2. Kumar, V., Bharti, B., Singh, H. P. and Topno, A. R. 2023. Assessing the interrelation between NDVI and climate dependent variables by using granger causality test and vector auto-regressive neural network model. Jr. of Physics and Chemistry of the Earth, Parts A/B/C, 131: 103428. 3. Ali, S., Bharti, B., and Singh, H.P. 2023. Assessment of Spatial and Temporal Trends of Diurnal Temperature Range for Vidisha District, Madhya Pradesh, India. Indian Journal of Environmental Protection. 43(7): 599–611. 4. Kumar V, Bharti B. 2022 Assessment of meteorological drought in Balod district, India through GIS and Remote sensing, Jr of Disaster Advances, India, 15 (12): 62-66. 5. Karan, K., Singh, D., Singh, P. K., Bharti, B., Singh, T. P. and Berndtsson, R. 2022. Implications of future climate change on crop and irrigation water requirements in a semi-arid river basin using CMIP6 GCMs. Journal of Arid Land, 14(11): 1234-1257. 6. Topno, A. R., Job, M., Rusia, D. K., Kumar, V., Bharti, B. and Singh, S. D. 2022. Prioritization and identification of vulnerable sub-watersheds using morphometric analysis and an integrated AHP-VIKOR method. *Water Supply*, *22*(11): 8050-8064. 7. Mahato, P. K., Singh, D., Bharati, B., Gagnon, A. S., Singh, B. B, and Brema, J. 2022. Assessing the impacts of human interventions and climate change on fluvial flooding using CMIP6 data and GIS-based hydrologic and hydraulic models. *Geocarto International*, *37*(26): 11483-11508. 8. Upadhya, U., Singh, A., Bharti, B. and Kumar, N. 2022. Development of Rainfall-Intensity-Duration-Frequency Curve for Urban Flood Management of Ranchi City. Indian Journal of Environmental Protection. 42(02):194-199. 9. Topno, A.R., Kumar V., Job, M., Rusia D.K. and Bharti, B. 2022. Spatiotemporal assessment of meteorological drought in the Palamu district, Jharkhand using Reconnaissance Drought Index, Jr of Disaster Advances, India.15 (3): 44-48.

10. Kumar, V., Bharti, B. and Singh, H.P. 2022. Time Series Analysis of NDVI of Palamu District of Jharkhand, India. International Journal of Advance and Innovative Research. 9, 3 (II): 43-47.
11. Sagar, P., Parhi, P.K., and Bharti, B. 2021. Optimal hydropower generation of Maithon multi-purpose reservoir system. Journal of Lakes & Reservoirs: Research & Management. 26(02): e12364.
12. Baba, S.A., Bhat, N.A., Bharti, B. and Ashraf, M. 2021. Hydro geochemical characteristics and quality appraisal of groundwater in Baramulla District. Jammu and Kashmir, India. Indian Journal of Geosciences. 75(03): 206-216.
13. Tripathi, V.K, Bharti, B., Warwade, P., Shukla, S.K, and Parhi, P.K. 2020. Effectiveness of Emitter Flushing Used for Subsurface Drip Irrigation System. Journal of Water Engineering and Management. 1(1): 79-87
14. Shinde, V., Singh, M., Nandgude, N, and Bharti, B. 2020. Modelling the effect of conservation measures on potential soil erosion: a USLE and GIS approach. Current Science (00113891).119(06): 984-991.
15. Jha, S., Bharti, B., Reddy, D.V., Shahdeo, P, and Das. P. 2020. Assessment of climate warming in the Western Ghats of India in the past century using geothermal records. Theoretical and Applied Climatology. 09(04):1-13.
16. Jaiswal, R. K., Ali Shorat, and Bharti, B. 2020. Comparative evaluation of conceptual and physical rainfall–runoff models. Journal of Applied Water Science. 10(1):1–14.
17. Kumar, S., Bharti, B, and Singh, H.P. 2020. Evaluation of ANN, M5P, RBF, Reptree for Runoff and Sediment yield. International Journal of Scientific & Technology Research. 09(04): 2987–2993.
18. Sinha, A., Kumari, A., Mahapatra, S., Singh, H.P, and Bharti, B. 2019. Temporal Rainfall Variability and Its Correlation with Temperature over Ranchi, Jharkhand. International Journal of Innovative Technology and Exploring Engineering. 09(2): 1099–1104.
19. Shinde, V.T., Singh. M., Nandgude, S.B., Sonawane, A, and Bharti, B. 2019. Effect of Organic and Inorganic Fertilizer Treatments on Micronutrients and Heavy Metals of Mine Affected Area Soil. International Journal of Agriculture Sciences. 11(23): 9270–9273.
20. Harsh., Bharti, B. 2019. Hydrological Analysis with Respect to Spatial Changes of Urban Growth in Bengaluru City using Geospatial Technology. International Journal of Engineering and Advanced Technology. 09(2):1048–1055.
21. Sagar, P., Parhi, P.K, and Bharti, B. 2019. Policy Design for Optimizing the Hydropower Generation Potential of Maithon Multi-purpose Reservoir System. International Journal of Engineering and Advanced Technology. 9(2): 99–108.
22. Kumar, V., Bharti, B., and Kumar, H. 2019. Analysis of Manifold Soil Grain Size of Ratu Block, Jharkhand India. International Journal of Scientific & Technology Research. 08(11): 2249–2254.

	23. Ali, S., Jaiswal, R.K., Bharti, B and Kumari, C. 2019. Comparative Analysis of Conceptual Rainfall-RunoffF Modelling in Chhastigarh India. International Journal of Advance and Innovative Research, 6.2(X), PP 20-28. 24. Bharti, B., Pandey, A., Tripathi, S. K., and Kumar, D. 2017. Modelling of runoff and sediment yield using ANN, LS-SVR, REPTree and M5 models. *Hydrology Research*, *48*(6): 1489-1507. 25. Goyal, M. K., Bharti,B., John, qulity., Jan, Adamowski, and Pandey, A. 2014. Modeling of daily pan evaporation in sub tropical climates using ANN, LS-SVR, Fuzzy Logic, and ANFIS. Journal of Expert Systems with Applications. 41: 5267–5276. 26. Jadhav, A., Pandey., A, and Bharti, B. 2012. Spatial soil erosion and sediment yield modeling of a watershed using GIS. International Agricultural Engineering Journal (IAEJ). 21(3/4), 82-89. 27. Bharti, B., Pandey, A., Mal, B.C. and Pandey, R.P. 2009. Spatial distribution of soil loss using M-M-F model, remote sensing and GIS. Sci-fronts Journal VII (3): 35-46.
Book Chapters:	1. Kumar, V., Bharti, B., Singh, H.P., Kumar, H., Kujur, S.P. (2023). Identification of Environmental Epidemiology Through Advanced Remote Sensing Based on NDVI. In: Mustak, S., Singh, D., Srivastava, P.K. (eds) Advanced Remote Sensing for Urban and Landscape Ecology. Advances in Geographical and Environmental Sciences. Springer, Singapore. https://doi.org/10.1007/978-981-99-3006-7_6 2. B Bharti., V. Kumar and H. Kumar (2022) Application of Nanocellulose as Nanotechnology in Water Purification. Nanocellulose Materials, Fabrication and Industrial Applications. Page179-198 (Elsevier) ISBN: 978-0-12-823963-6 3. Sagar,P., Bharti,B., Sangeeta Khalko. *(2018)* Prioritization of Sub-watershed Using Different methods, New Delhi Publishers, New Delhi, Chapter-24, PP 275-287. ISBN: 978-93-86453-08-2. 4. Pandey, Richa., Arya, Saurav., Keshari., A.K., Bharti,B. (2016) Non-Linear Optimization Modeling for Kosi-Mechi Inter- Basin Transfer Link, New Delhi Publishers, New Delhi, Chapter-24, PP 237-251. ISBN: 978-93-85503-22-1 5. Arya, Saurav., Pandey, Richa., Bharti,B., Singh., A. (2016) Spatial Variability of Groundwater Quality Parameters using GIS, New Delhi Publishers, New Delhi, Chapter-25, PP 253-267. ISBN: 978-93-85503-22-1.
Seminar/ Workshop/ Conference Participation:	1. Bharti,B., keshr,K.K., Anand,P. *(2018)* Identification of Spatial Erosion Prone Area of a Catchment. Accepted for presentation in Global Water Security for Agriculture and Natural Resources Conference, 3rd -6th, October 2018, Hyderabad.

	2. Bharti,B., keshr,K.K., Anand,P (2016) Effect of land use land cover change on soil erosion in a catchment. Accepted for presentation in International Conference on Hydraulics, Water Resources, Coastal and Environmental Engineering, December 8-10, 2016 at Central Water & Power Research Station (CWPRS), Pune. 3. Bharti,B., Pandey,A., Mal,B.C.,*(2013)* Identification of Soil Erosion Prone areas of a Watershed Using MMF and GIS.Accepted for presentation in International Conference on Hydraulics, Water Resources, Coastal and Environmental Engineering, December 4-6, 2013 at IIT Madras. 4. Bharti,B., Pandey,A., Mal,B.C., Tripathi,.V.K.,parhi,P.K,*(2012)* Sediment Yield Modeling using Remote sensing & GIS. Accepted for presentation in International Conference on Hydraulics, Water Resources, Coastal and Environmental Engineering, December 7-8, 2012 at IIT Mumbai. 5. Bharti, B., Pandey, A., Mal, B.C. and Pandey, R.P. (2010). Spatial distribution of soil loss using USLE, Remote Sensing and GIS. Accepted for presentation at XLIV ISAE Convention, New Delhi. January, 28-30, 2010. 6. Suryavanshi, S., Denis, D.M., Kumar, D., Trikey, G. and Bharti, B. (2010). River Meandering Study Using Remote Sensing and GIS. Accepted for presentation in International Workshop on River Management December 14-16, 2010. New Delhi 7. Pandey,A.,Bharti,B.Mal,B.C.and Pandey, R.P.(2009).Quantification of Soil Loss Using MMF Model, GIS and Remote Sensing. Accepted for presentation in International Conference on Food Security and Environmental Sustainability 2009, December 17-19, 2009 at IIT Kharagpur, West Bengal (India).
Program Organized:	• As an Organizing Secretary of the National conference on "Water and Sustainable Development" held during January 8-9, 2016. CUJ, Ranchi • As an Organizing Secretary of the International Conference on "Water and Wastewater Management and Modelling" held during January 16-17, 2018.CUJ, Ranchi
Any other information:	• MHRD Fellowship in M.Tech. , IIT, Kharagpur • MHRD Fellowship in Ph.D. , IIT, Roorkee
Updated as on	16th April 2024