Curriculum Vitae of Dr Pramod Kumar Sharma
Professor, CED, IIT Roorkee-247667, India

❖ *PERSONAL PARTICULARS*

Name : **Dr. Pramod Kumar Sharma**

Present Address : **Professor**
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❖ *EDUCATIONAL QUALIFICATIONS*

Name of Examinations	Board/Institution/ University	Year of passing/Awarded	% of marks obtained	Subjects/ Specialization
Ph.D.	Indian Institute of Technology Kanpur, India	2004	7.79/10 (CPI)	Civil Engineering (HWRE)
M.E	Government Engineering College, Raipur (Presently N.I.T.), India	1996	69.80	Civil Engineering (WRD&I)
B.E.	M.M.M. Engineering College, Gorakhpur, (Presently MMMTU) India	1994	79.56	Civil Engineering

Ph.D. defence date: 05-03-2004

Title of Ph.D. Thesis: Analysis of Spatial Moments and Temporal Moments for Reactive Transport in Porous Media

❖ *AREA OF ACADEMIC /RESEARCH INTEREST*

- Groundwater hydrology and hydraulics
- Flow and Contaminant Transport through Porous media and Fractured-Porous Rock.
- Experimental studies on flow and solute transport through the subsurface aquifer system
- Mathematical and Numerical modeling for flow and contaminant transport through subsurface

❖ Research project

S. NO.	Research Project	PI and Co-PI	Funding Agency	Amount (Rs. in Lakhs)	Date of Completion
1.	Development of Stochastic Numerical Model for Reactive Solute Transport through Fractured-Impermeable Porous Formations with Random Matrix Diffusion	P. K. Sharma	Faculty Initiation Grants IIT Roorkee	4.75	2009-2012

2.	Experimental evaluation and numerical modeling for flow and solute transport through soil column and two-dimensional fractured porous formations	P.I.: P. K. Sharma Co-PI: Prof. D. Kashyap Prof. C.S.P. Ojha	DST NEW DELHI	18.24	Aug 2009 to July 2012
3.	Pier and jet scour in cohesive sediments consisting of clay-sand-gravel mixtures"	P.I.: Late Dr U.C. Kothyari 2009-2012 P.I.: P. K. Sharma 2012-2014	DST NEW DELHI	29	2009-2013
4.	Numerical modeling of solute transport through fractured porous media	P. K. Sharma	Endeavour Research Grant Australia	13	2015
5.	Submerged vanes for river training and sediment management in streams and their field application	P.I.: Prof Z. Ahmad Co-P.I.: Dr P.K. Sharma	Ministry of Ports, Shipping and Water ways-New Delhi	172.50	2021-2025
6	Co-creating Sustainable Agri-Water Use in the Hindon sub-basin – A Multi-Scale Participatory Approach **Dutch Partner** • Wageningen University • Utrecht University **Indian Partners** • IISER Kolkata • ICAR-IIFSR • PSI (an NGO) • **IIT-Roorkee**	P.I. Prof B K Yadav Co-P.I.: Dr. P.K. Sharma	joint DST-NWO (Indo-Dutch)	51	2022-2027
7.	***Morphological and hydrological study of Mohand River for Elevated Delhi-Dehradun Highway***	P.I.: Dr. P.K. Sharma Co-P.I.: Prof Z. Ahmad	NHAI Dehradun	48.60	Jun-2023-June2026

❖ Received Funds from DAM SAFETY Program for

Development of lab setup for the "Physical model for earth embankment dams" sanctioned Rs. 77 Lakhs under the project ICD-2043-MJS, Development of International Centre of Excellence for Dams (ICED) sponsored by Central Water Commission, Department of Resources, River Development and Rejuvenation (DoWR, RD&GR), Ministry of Jal Shakti Govt. of India, New Delhi.

❖ **AICTE sponsored short-term course on "Applied solute transport modeling for management of polluted land sites" (Course coordinator:** Prof. Brijesh K. Yadav & Prof. Pramod K. Sharma) completed March 15-19, 2021

❖ **GIAN Courses funded by the Ministry of Human Resource Development Government of India**

1. **"**Water Sensitive Urban Design and Integrated Urban Water Management" December 19-23, 2022 (Foreign Faculty Dr Ashok Kumar Sharma from Victoria University Melbourne Australia. (**Rs. 6.08 Lacs**)

2. "Flow and contaminant transport through subsurface" February 20-24, 2023, (Foreign Faculty Prof Rao S. Govindaraju, Purdue University, USA) **Rs. 6.08 Lacs.**

❖ **Sponsored Course funded by the Water Resources Department Punjab, Chandigarh**

3. **"**Capacity building of officers of Water Resources Department Punjab for designing Lift Irrigation scheme" July 30-August 08, 2023 (**Rs. 14.16 Lacs**), Course Coordinator-P K Sharma

❖ ***Research Training:*** worked with **Dr. M. Sekhar**, Department of Civil Engineering, **Indian Institute of Science, Bangalore**, during the period from 11-12-2007 to 10-02-2008, for research/training.

❖ ***Honors and Award***

- **Endeavour Postdoctoral Research Fellowship Award by** DEEWR, Australian Government in 2015
- **G.M. Nawathe best paper award** for best paper presentation during HYDRO 2014 held at MANIT Bhopal
- **Jalvigyan Purskar (2011**) by **Indian** society for Hydraulics (ISH)

❖ ***Teaching Experience*:**

Professor, Indian Institute of Technology Roorkee-247667, (U.K.), India, since **October 11, 2023, till now**

Associate Professor, Indian Institute of Technology Roorkee-247667, (U.K.), India, since **April 04, 2014, October 10, 2023**

Assistant Professor, Indian Institute of Technology Roorkee, (U.K.), India, from **May 27, 2008 to April 03, 2014**

Lecturer in Civil Engineering Department, M.M.M. Engineering College, Gorakhpur-273010, (U.P.), India, from June 26, 2003 to May 26, 2008.

❖ ***Visit to outside Institute***

Edith Cowan University, Perth, Australia as Post-Doctoral Fellowship from May 04, 2015 to November 03, 2015

❖ **Involved in conferences as:**

1. **Co-organizing secretary** of HYDRO 2015 INTERNATIONAL: 20th International conference on Hydraulics, Water Resources and River Engineering (December 17-19, 2015) held at IIT Roorkee
2. **Organizing member of Workshop on** "Morphological study of rivers Ganga, Sharda and Rapti Using Remote Sensing Technique" during September 18-19, 2017 at New Delhi
3. **Joint-organizing secretary** 8th International Groundwater conference on sustainable Management of soil-water Resources (IGWC-2019) held at IIT Roorkee, during October 21-24, 2019.
4. **Attended:** Roorkee Water Conclave-2020 held at IIT Roorkee
5. **Attended:** 9th International Symposium on Hydraulic Structures -2022 held during 24-27 October 2022 at IIT Roorkee.

❖ **Ph.D. Thesis supervised: 08**

S. No.	Name of Student	Title of Thesis	Year of Awarded	Present Working Status
1.	Pooja Agrawal	Flow and Ammonium transport through variably saturated porous media (Registration date: 06/7/2018)	April 06, 2023 (viva-voce held on March 03-2023)	Assistant Professor, Parul University, Post Limda, Waghodia, Gujrat-391760
2.	Uttam Kumar	Aquifer Characterization using Electrical Resistivity Tomography and GMR (Registration date: 28/12/2017)	April 06, 2023 (viva-voce held on May 11-2022)	Assistant Professor MNIT Jaipur
3.	Muskan Mayank	Experimental study of solute transport through three-dimensional porous media	2021	Assistant Prof NIT Uttrakhand
4.	Manish Pandey	Scour around Bridge pier in gravel bed streams	2018	Assistant Prof. NIT Warangal
5.	Teodrose Atnafu	Modeling of contaminant transport through porous media using asymptotic dispersivity	2016	Assistant Prof. University of Gondar
6.	Ajay Kumar Lodhi	Scour around circular piers in clay-sand gravel mixtures (Co-supervisor:- Dr. Chakrapani and Dr. R.K. Jain)	2015	***Assistant Prof.*** *(Soil and Water Engineering), JNKVV, Jabalpur (M.P.) India*
7.	Deepak Swami	Study on Reactive solute transport through porous media (Co-supervisor:- Dr. C.S.P. Ojha)	2014	Associate Prof. IIT Mandi
8.	Nitin Joshi	Reactive contaminant transport through fractured porous media (Co-supervisor:- Dr. C.S.P. Ojha)	2013	Assistant Prof at IIT Jammu

❖ **Ph.D. Thesis in progress: 08**

S. No.	Name of Student	Title of Thesis	Supervisor	Co-supervisor	Status
1.	Akhilesh Paswan	Numerical study of colloid-facilitated contaminant transport through porous media (Registration date: 22/12/2021)	Dr P K Sharma	---	In Progress
2.	Rishabh Gupta	Study on the surface and subsurface water interaction (Registration date: 16/08/2020)	Dr P K Sharma	---	In Progress
3.	Kumar Rishabh Gupta	Multispecies transport through porous media (Registration date: 26/12/2019)	Dr P K Sharma	---	In Progress
4.	Snigdha Pandey	Numerical modeling of contaminant transport through fractured porous rock (Registration date: 26/12/2018)	Dr P K Sharma	---	In Progress
5.	Angad Kumar	Hydraulics of Gabion Weir, (Registration date: 22/07/2020)	Prof Z Ahmad	Dr P K Sharma	In Progress
6.	Ashish Dabral	Hydraulics of trench weir (Registration date: 12/07/2019)	Dr P K Sharma	Prof Z Ahmad	In Progress

7.	Bhagwan Das	Critical submergence for multiple Hydraulic Intakes (Registration date: 12/07/2019)	Prof Z Ahmad	Dr P K Sharma	In Progress
8.	Syed Khateeb Ahmad	Investigation on Flow and Sediment Transport in Mahanadi in Chhattisgarh State (Registration date: January 8, 2022)	Prof Z Ahmad	Dr P K Sharma	In Progress

❖ *Book Chapter*

1. Singh, U., Sharma, P.K. (2023). Non-invasive Subsurface Groundwater Exploration Techniques. In: Shukla, P., Singh, P., Singh, R.M. (eds) Environmental Processes and Management. Water Science and Technology Library, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-20208-7_1
2. Sharma, P.K., Mayank, M., Agarwal, P. (2023). Numerical Solution of Space Fractional Advection–Dispersion Equation and Application. In: Shukla, P., Singh, P., Singh, R.M. (eds) Environmental Processes and Management. Water Science and Technology Library, vol 120. Springer, Cham. https://doi.org/10.1007/978-3-031-20208-7_2
3. Agarwal, P., Alam, M. A., & Sharma, P. K. (2022). Decadal-Based Analysis of Hydrological Components in the Kesinga Sub-Catchment in Mahanadi Basin: An Assessment of Climate Variability Impact. In *River Dynamics and Flood Hazards: Studies on Risk and Mitigation* (pp. 527-539). Singapore: Springer Nature Singapore.

❖ *PUBLICATIONS*

A. JOURNAL:

1. Singh, U., & **Sharma, P. K.** (2024). Study on aquifer characterization using surface nuclear magnetic resonance. Environmental Earth Sciences, 83(1), 21.
2. Das, B., Ahmad, Z., & **Sharma, P. K.** (2024). Discharge characteristics of lateral rectangular orifice intakes in open channel flow. *Arabian Journal of Geosciences*, *17*(1), 1-9.
3. Agarwal, P., & **Sharma, P. K.** (2024). Experimental and Numerical Investigation of Ammonium Migration Attenuation in Soils with Different Clay Contents. **ASCE,** *Journal of Hazardous, Toxic, and Radioactive Waste*, *28*(1), 04023041. DOI: 10.1061/JHTRBP.HZENG-1255
4. **Sharma, P. K.** & Paswan A, (2023). Flow and Colloid-Facilitated Contaminant Transport in the Vadose Zone: A Numerical Study. **ASCE,** Journal of Hydrologic Engineering, *28*(11), 04023033**.** DOI: 10.1061/JHYEFF.HEENG.5987 **(Q1)**
5. Pandey, S., & **Sharma, P. K.** (2023). Experimental study on non-Darcian flow through a single artificial fracture for different fracture apertures and surface roughness. *Journal of Hydroinformatics*, *25*(6), 2460-2478.
6. Gupta, K. R., **Sharma, P. K**. (2023). Study on multispecies solute transport through heterogeneous porous media. *Arab J Geosci* **16**, 452. https://doi.org/10.1007/s12517-023-11580-1 **(Q2)**
7. Gupta, R., & **Sharma, P. K**. (2023). A review of groundwater-surface water interaction studies in India. *Journal of Hydrology*, 129592. https://doi.org/10.1016/j.jhydrol.2023.129592 **(Q1)**
8. Okwir, G., Kumar, S., **Pramod, K. S**., Gao, H., & Njau, K. N. (2023). Conceptualization of groundwater-surface water interaction with evidence from environmental isotopes and hydrogeochemistry in lake Babati Basin in Northern Tanzania. ***Groundwater for Sustainable Development***, 100940. (**Q1**)
9. Paswan, A., & **Sharma, P. K.** (2023). Two-Dimensional Modeling of Colloid-Facilitated Contaminant Transport in Groundwater Flow Systems with Stagnant Zones. ***Water Resources Research***, *59*(2), e2022WR033130. **https://doi.org/10.1029/2022WR033130** (**Q1**)
10. Pandey, S. & **Sharma, P. K.** (2023). Study on non-Darcian flow and solute transport characteristics through a filled single fracture. *ISH Journal of Hydraulic Engineering*, http://dx.doi.org/10.1080/09715010.2023.2187711(**Q2**)
11. Singh, U. & **Sharma, P. K.**, (2023). Comparison of Saturated Hydraulic Conductivity Estimated by Surface NMR and Empirical Equations. *Journal of Hydrology*, https://doi.org/10.1016/j.jhydrol.2022.128929. (**Q1**)
12. Paswan, A. & **Sharma, P. K.** (2022). Numerical analysis of spatial moment for colloid-facilitated contaminant transport through porous media. *ISH Journal of Hydraulic Engineering*, https://doi.org/10.1080/09715010.2022.2154619. (**Q2**)

13. Okwir, G., **Sharma, P. K.**, Gao, H., Selemani, J., & Njau, K. (2022). Multi-variate regression analysis of lake level variability: A case of semi-closed, shallow rift valley lake in Northern Tanzania. *Environmental Challenges*, https://doi.org/10.1016/j.envc.2022.100533. **(Q1)**
14. Singh, U. & **Sharma, P. K.**, (2022). Seasonal Uncertainty Estimation of Surface Nuclear Magnetic Resonance Water Content using Bootstrap Statistics. *Water Resources Management*, 1-16. https://doi.org/10.1007/s11269-022-03155-8 **(Q1)**
15. Agarwal, P. & **Sharma, P.K.** (2022). Analyzing the Effects of Irrigation on the Sensitivity and Estimability of Soil Hydraulic Parameter. **ASCE** Journal of Irrigation and Drainage Engineering, 148(7), DOI: 10.1061/(ASCE)IR.1943-4774.0001691 **(Q2)**
16. Singh, U. & **Sharma, P. K.**, (2022). Study on Geometric Factor and Sensitivity of Subsurface for Different Electrical Resistivity Tomography Arrays. *Arabian Journal of Geosciences*, *15*(7), 1-9. https://doi.org/10.1007/s12517-022-09844-3. (**Q2**)
17. Singh, U. & **Sharma, P. K.**, (2022). Seasonal groundwater monitoring using surface NMR and 2D/3D ERT. *Environmental Earth Sciences*, https://doi.org/10.1007/s12665-022-10325-9 (**Q2**)
18. Mayank, M., & **Sharma, P. K.** (2022). Numerical and experimental study on solute transport through physical aquifer model. *Water Supply*, *22*(1), 137-155. https://doi.org/10.2166/ws.2021.281 **(Q3)**
19. Singh, U., Agarwal, P. & **Sharma, P. K.** (2022). Meteorological drought analysis with different indices for the Betwa river basin, India. *Theoretical and Applied Climatology*. https://doi.org/10.1007/s00704-022-04027-2 (**Q2**)
20. Singh, U., Desai, V. R., **Sharma, P. K.**, & Ojha, C. S.P. (2022). Simulating pre-monsoon and post-monsoon flows at Farakka barrage, India. *Sustainable Water Resources Management*, *8*(1), 1-14. https://doi.org/10.1007/s40899-021-00594-w. **(Q2)**
21. Okwir, G., Komakech, H. C., **Sharma, P. K**., Gao, H., & Njau, K. N. (2021). Mapping groundwater in ungauged lake basin in Tanzania: A comparison between two topography-based methods. *Groundwater for Sustainable Development*, doi.org/10.1016/j.gsd.2021.100697, (**Q1)**
22. Singh, U., & **Sharma, P. K**. (2021). Drought forecasting using the stochastic model in the Betwa river basin, India. *Modeling Earth Systems and Environment*, 1-16. doi.org/10.1007/s40808-021-01187-4
23. Agarwal, P., & **Sharma, P. K**. (2020). Analysis of critical parameters of flow and solute transport in porous media. *Water Supply*, *20*(8), 3449-3463. https://doi.org/10.2166/ws.2020.245 (**Q3**)
24. **Sharma, P. K.,** Agarwal, P. & Mehdinejadiani, B. (2020). Study on non-Fickian behavior for solute transport through porous media, ISH Journal of Hydraulic Engineering, DOI: 10.1080/09715010.2020.1727783 (**Q2**)
25. **Pandey, M.,** Oliveto, G., Pu, J. H., **Sharma, P. K**. and Ojha C.S.P. **(2020).** Pier Scour Prediction in Non-Uniform Gravel Beds. *Water (MDPI)*, *12*, 1696. doi: https://doi.org/10.3390/w12061696 **(Q1)**
26. Singh, U., **Sharma, P. K**. & Ojha, C.S.P. (2019). Groundwater investigation using ground magnetic resonance and resistivity meter. ISH Journal of Hydraulic Engineering, https://doi.org/10.1080/09715010.2019.1661802, (**Q2**)
27. Pandey, M., Chen, S. C., **Sharma, P. K**., Ojha, C. S. P., & Kumar, V. (2019). Local Scour of Armor Layer Processes around the Circular Pier in Non-Uniform Gravel Bed. Water, 11(7), 1421. (**Q1**)
28. **Sharma, P. K**., Mayank, M., & Ojha, C. S. P. (2018). Numerical analysis of breakthrough curves and temporal moments for solute transport in triple-permeability porous medium. *ISH Journal of Hydraulic Engineering*, 1-13. (**Q2**)
29. Pandey, M., **Sharma, P. K**., Ahmad, Z., & Karna, N. (2018). Maximum scour depth around bridge pier in gravel bed streams. *Natural Hazards*, *91*(2), 819-836. (**Q1**)
30. Lodhi, A. S., Jain, R. K., **Sharma, P. K**., & Karna, N. (2018). Influence of cohesion on scour at wake of partially submerged spur dikes in cohesive sediment mixtures. ISH Journal of Hydraulic Engineering, 1-12. (**Q2**)
31. Swami, D., **Sharma, P. K**., Ojha, C. S. P., Guleria, A., & Sharma, A. (2018). Asymptotic Behavior of Mass Transfer for Solute Transport through Stratified Porous Medium. Transport in Porous Media, 1-23. (**Q1**)
32. Pandey, M., Zakwan, M., **Sharma, P. K**., & Ahmad, Z. (2018). Multiple linear regression and genetic algorithm approaches to predict temporal scour depth near circular pier in non-cohesive sediment. *ISH Journal of Hydraulic Engineering*, 1-8. (**Q2**)
33. **Sharma, P. K**., Mayank, M., Ojha, C. S. P., & Shukla, S. K. (2018). A review on groundwater contaminant transport and remediation. ISH Journal of Hydraulic Engineering, 1-10. (**Q2**)

34. Pandey, M., **Sharma, P.K**., Ahmad, Z., Singh, U.K. and Karna, N. (2017). Three-dimensional velocity measurements around bridge piers in gravel bed. Marine Georesources & Geotechnology. DOI: 10.1080/1064119X.2017.1362085. (**Q2**)
35. Pandey, M., **Sharma, P. K**., Ahmad, Z., & Singh, U. K. (2017). Evaluation of existing equations for temporal scour depth around circular bridge piers. *Environmental Fluid Mechanics*, 1-15. DOI: 10.1007/s10652-017-9529-9 (**Q2**)
36. Pandey, M., Ahmad, Z., & **Sharma, P. K.** (2017). Scour around impermeable spur dikes: a review. ISH Journal of Hydraulic Engineering, 24(1), 25-44. (**Q2**)
37. Pandey, M., **Sharma, P. K**., Ahmad, Z., & Singh, U. K. (2017). Experimental investigation of clear-water temporal scour variation around bridge pier in gravel bed. Environmental Fluid Mechanics, 1-20. (**Q2**)
38. Swami, D., Sharma, A., **Sharma, P. K**., & Shukla, D. P. (2016). Predicting suitability of different scale-dependent dispersivities for reactive solute transport through stratified porous media. Journal of Rock Mechanics and Geotechnical Engineering, 8(6), 921-927, (**Q1**)
39. Rajsekhar, K., **Sharma, P. K**., & Shukla, S. K. (2016). Numerical modeling of virus transport through unsaturated porous media. *Cogent Geoscience*, *2*(1), 1220444. DOI:10.1080/23312041.2016.1220444
40. **Sharma, P. K**., Kakani, S. and Shukla, S.K. (2016). Numerical Study of Contaminant Transport in Fractured Porous Rock with Distance Dependent Dispersivity. J. of Water Resource and Hydraulic Engineering, June 2016, Vol. 5 Iss. 2, PP. 46-57. DOI:10.5963/JWRHE0502001
41. Swami, D., **Sharma, P. K**., & Ojha, C. S. P. (2016). Behavioral Study of the Mass Transfer Coefficient of Nonreactive Solute with Velocity, Distance, and Dispersion. **ASCE**, *Journal of Environmental Engineering*, *143*(1), 04016076. (**Q2**)
42. **Sharma, P. K.,** Shukla, S.K., Choudhary, R., Swami, D**.** (2016). Modeling for solute transport in mobile-immobile soil column experiment. ISH Journal of Hydraulic Engineering, DOI:10.1080/09715010.2016.1155181. (**Q2**)
43. Pandey, M., Ahmad, Z., and **Sharma, P. K**. (2015). Estimation of Maximum Scour Depth near a Spur Dike. *Canadian Journal of Civil Engineering*, (ja). (**Q2**)
44. **Sharma, P. K**., Ojha, C.S.P., Swami, D., Joshi, N., and Shukla, S.K. (2015). Semi-Analytical Solutions of Multiprocessing Non-Equilibrium Transport Equations with Linear and Exponential Distance-Dependent Dispersivity. Water Resources Management, 29(14), 5255-5273, (**Q1**)
45. **Sharma, P. K**., Ojha, C. S. P., Abegaze, T. A., Swami, D., and Yadav, A. (2015). Simulation of Fluoride Transport through Fine Sand Column Experiments. Journal of Hydrogeol Hydrol Eng 4: 2. of, 8, 2., doi:http://dx.doi.org/10.4172/2325-9647.1000121
46. Lodhi, A. S., Jain, R. K., and **Sharma, P. K.** (2015). Influence of cohesion on scour around submerged dike founded in clay–sand–gravel mixtures. ISH Journal of Hydraulic Engineering, 1-18. (**Q2**)
47. Abgaze, T. A., and **Sharma, P. K.** (2015). Solute transport through porous media with scale-dependent dispersion and variable mass transfer coefficient. ISH Journal of Hydraulic Engineering, 21(3), 298-311. (**Q2**)
48. **Sharma, P. K**., and Abgaze, T. A. (2015). Solute transport through porous media using asymptotic dispersivity. Sadhana, 40(5), 1595-1609. (**Q2**)
49. Joshi, N., Ojha, C. S. P., **Sharma, P. K**., & Madramootoo, C. A. (2015). Application of non-equilibrium fracture matrix model in simulating reactive contaminant transport through fractured porous media. **Water Resources Researc**h, 51(1), 390-408. (**Q1**)
50. **Sharma, P. K**., Joshi, N., Srivastava, R., and Ojha, C. (2014). "Reactive Transport in Fractured Permeable Porous Media." Journal of hydrologic Engineering, ASCE,10.1061/(ASCE)HE.1943-5584.0001096 , 04014078. (**Q1**)
51. **Sharma, P. K.** and Srivastava, R. (2014). Numerical analysis of spatial moments for reactive transport through fractured porous media. ISH Journal of Hydraulic Engineering published by Taylor and Francis UK.P. 1-13, **DOI:**10.1080/09715010.2014.884360, (**Q2**)
52. **Sharma, P. K.,** Savant, V.A., Shukla, S.K., and Khan, Z. (2014). Experimental and numerical simulation of contaminant transport through layered soil. International Journal of Geotechnical Engineering.Vol. 8(4), 345-351,DOI 10.1179/1939787913Y.0000000014 (**Q2**)

53. **Sharma, P. K.** and Dixit, U. (2014). Contaminant Transport through Fractured Porous Media: An Experimental Study. Journal of Hydro-Environment Research, Elsevier,Vol.8(3), 223–233,http://dx.doi.org/10.1016/j.jher.2013.08.003 (**Q1**)
54. Deepak, S., **Sharma, P. K**., Ojha C.S.P (2014). Simulation of experimental breakthrough curves usingmultiprocess non-equilibrium model for reactive solute transport in stratified porous media. Sadhana Vol. 39(6), 1425–1446, Indian Academy of Sciences. (**Q2**)
55. **Sharma, P. K**., Ojha, C.S.P., and Joshi, N. (2014). Finite volume model for reactive transport in fractured porous media with distance and time dependent dispersion. Hydrological Sciences Journal, 59 (8), 1-11. (**Q1**)
56. Joshi, N., Ojha, C.S.P, **Sharma P. K**., Surampalli, R.Y**.** (2013). Parameter identification of virus transport in porous media using equilibrium and non-equilibrium models. Journal of Environmental Chemical Engineering, Vol. 1(4), 1099-1107. (**Q1**)
57. **Sharma, P. K. (2013)** Temporal moments for solute transport through fractured porous media**.** ISH Journal of Hydraulic Engineering published by Taylor and Francis UK,DOI:10.1080/09715010.2013.798908, (**Q2**)
58. Deepak, S., **Sharma, P. K**., Ojha C.S.P (2013). Experimental investigation of solute transport through stratified porous media. ISH, Journal of Hydraulic Engineering published by Taylor and Francis UK, **DOI:**10.1080/09715010.2013.793930. (**Q2**)
59. **Sharma, P. K.,** Joshi, N. and Ojha, C.S.P. (2013). Stochastic Numerical Method for Analysis of Solute Transport in Fractured Porous Media. Journal of Hydro-Environment Research, Elsevier, **(7), 61-71**. (**Q1**)
60. Joshi N, Ojha CSP, **Sharma, P. K.** (2012) A non-equilibrium model for reactive contaminant transport through fractured porous media: Model development and semi-analytical solution. **Water Resources Research**., Vol. 48, W10511, doi:10.1029/2011WR011621. (**Q1**)
61. **Sharma, P. K.,** Sekhar, M., Srivastava, R. and Ojha, C.S.P. (2012). Temporal Moments for Reactive Transport through Fractured Impermeable / Permeable Formations. J. Hydrologic Engineering (**ASCE**) 17: 1302-1314. (**Q1**)
62. **Sharma, P. K.** and Srivastava, R. (2012). Concentration profiles and spatial moments for reactive transport through porous media. **ASCE** Journal of **Hazardous, Toxic, and Radioactive Waste, Vol. 16 (2), P-125-133.** (**Q2**)
63. Ojha, C.S.P., Surampalli, R. Y., **Sharma, P. K**., and Nitin Joshi (2011). Breakthrough curves and simulation of virus transport through fractured porous media. Journal of Environmental Engineering, **ASCE**, Vol. 137 (8), 731-739. (**Q2**)
64. **Sharma, P. K**. and Srivastava, R (2011). Numerical analysis of virus transport through heterogeneous porous media". Journal of Hydro Environment Research (5), 93-99. (**Q1**)
65. **Sharma, P. K**., Nitin Joshi and Ojha C. S. P. (2011) Reactive transport through porous media using Finite difference and Finite Volume Methods. **Journal of Hydraulic Engineering** published by Taylor and Francis UK**,**Vol 17(2), 77-86. (**Q2**)
66. Kashyap, D, **Sharma, P. K.** and Subrahnanyam (2011). Stochastic modeling of groundwater contamination around an ash slurry holding dyke. ISH **Journal of Hydraulic Engineering**, Vol 17(1), 58-70. (**Q2**)
67. Srivastava, R., **Sharma, P. K**., and Brusseau (2004). Reactive Transport in Homogeneous Porous Media: Analytical Solutions for Temporal Moments". J. of Contaminant Hydrology, 69, 27-43. (**Q1**)
68. Srivastava, R., **Sharma, P. K**., and Brusseau (2002.) Spatial Moments for Reactive Transport in Heterogeneous Porous Media". J. Hydrologic Engineering, **ASCE**, July/August, 336-341. (**Q1**)

B. INTERNATIONAL CONFERENCES:

1. Patel, H and Sharma, P.K. (2023). Assessment of Groundwater Vulnerability to Pollution in Aquifer in Haridwar District, India. **HYDRO 28th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, December 21-23, 2023 at NIT Warangal**

2. Kumar, R. G, and **Sharma, P. K.** (2022). Simulation of two-dimensional multispecies reactive transport in porous media with variable dispersivity. AGU, Chicago, USA, December 12-16, 2022

3. Kumar, R. G, and **Sharma, P. K.** (2022). Numerical Analysis of two-dimensional multispecies solute transport through unsaturated porous media. 9th international groundwater conference (IGWC-2022) November 02-04, 2022, IIT Roorkee.
4. Pandey, S. and **Sharma P. K.** (2022). Study on flow and reactive solute migration through synthetic single fracture under non-Darcian flow conditions. 9th international groundwater conference (IGWC-2022) November 02-04, 2022, IIT Roorkee.
5. Paswan, A. and **Sharma P. K.** (2022). Study on flow and colloid-facilitated contaminant transport in the unsaturated porous media: a numerical modeling. 9th international groundwater conference (IGWC-2022) November 02-04, 2022, IIT Roorkee.
6. Agarwal, P. and **Sharma P.K.** (2021). Investigating the effects of clay present in the soil on ammonium migration in the subsurface, American Geophysical Union (AGU), December 13-17, 2021, New Orleans, USA.
7. Singh, U**.**, **Sharma, P. K.** (2021). Study on subsurface hydraulic conductivity and soil moisture using Ground Magnetic Resonance (GMR). Hydro 2020, NIT Rourkela, March 26-28, 2021
8. **Sharma, P. K.** and Pandey M. (2018). Investigations of subsurface characterization using Ground Magnetic Resonance, European Geoscience Union (EGU) General Assembly, Vienna, Austria.
9. **Sharma, P.K**., Pandey M., Ahmad, Z. (2017). Scour around vertical wall abutment in cohesionless sediment bed, Poster presentation, AGU fall meeting, New Orleans, Louisiana, USA.
10. **Sharma, P.K.** and Ojha, C.S.P. (2017). Groundwater exploration using Ground Mahnetic Resonance. Presented in 7th International Ground Water Conference (IGWC-2017)
11. **Sharma, P. K.** and Shukla, S. K. (2015). Flow and contaminant transport through heterogeneous fractured rock. HYDRO 2015 INTERNTIONAL Conference, December 17-19, 2015, at IIT Roorkee, India (HYD-284).
12. Swami, D., Sharma, P.K. and Ojha, C.S.P. (2015). Comparative study of MPNE using different scle dependent dispersivity for reactive solute transport through heterogeneous porous medium. HYDRO 2015 INTERNTIONAL Conference, December 17-19, 2015, at IIT Roorkee, India (HYD-168)
13. Pandey, M., Ahmad, Z., & **Sharma, P. K**., Sharma, U.K. (2015). Evaluation of existing equation for maximum scour depth near a spur dike. HYDRO 2015 INTERNTIONAL Conference, December 17-19, 2015, at IIT Roorkee, India (HYD-312).
14. **Sharma, P.K**. and Srivastava, R. (2014). Modeling of virus transport in unsaturated porous media using HYDRUS SOFTWARE. Proceeding, 5th International and 41st National conference on fluid mechanics and Fluid Power, December 12-14, 2014, IIT Kanpur, India.
15. **Sharma, P.K**. and Sonowal, S. (2014) Experimental investigation of solute transport through Fractured Porous Rock. HYDRO 2014 INTERNTIONAL Conference, December 18-20, 2014, at M.A.N.I.T. Bhopal, India.
16. Teodrose, A.A., **Sharma, P. K**. and Swami D. (2014) Modeling solute transport through porous media with scale dependent dispersion. HYDRO 2014 INTERNTIONAL Conference, December 18-20, 2014, at M.A.N.I.T. Bhopal, India.
17. Pandey, M., Ahmad, Z., **Sharma, P.K**. (2014) Evaluation of existing equations for maximum scour depth near spur dikes. HYDRO 2014 INTERNTIONAL Conference, December 18-20, 2014, at M.A.N.I.T. Bhopal, India.
18. Pandey, M., Ahmad, Z., **Sharma, P.K**. and Lodhi A.S., (2014). "Scour and flow behaviour around single & multiple spur dike". Proceeding, ICES'14 (ASCE) 14-16 March 2014 VIT University, 74-82.
19. Lodhi, A.S., Jain, R.K., **Sharma, P.K.** and Karna, M., "Time Evolution Of Clear Water Bridge Pier Scour ". Proceeding, ICES'14 (ASCE) 14-16 March 2014 VIT University, 252-260.
20. Swami, D., **Sharma, P.K.,** Ojha C.S.P. (2013**)** "Reactive transport through stratified porous media**.** Proceeding of HYDRO-2013, (P-381-387), International, 4-6 December, 2013, IIT Madras, Chennai, India.
21. Lodhi, A.S., **Sharma, P.K**., Jain, R.K., Karna, N., (2013) Time dependent scour around spur dykes in gravel and sand gravel bed, Proceeding of HYDRO-2013, (p-616-623), International, 4-6 December, 2013,IIT Madras, Chennai, India.
22. **Sharma, P.K.,** Swami, Deepak, Ojha C.S.P. (2013**)** "Simulation and experimental study of solute transport in stratified porous media**. IPWE 13, January 7-9, 2013 at Izmir, Turkey**
23. **Sharma, P.K**. and Dixit Umang (2012) "Simulation and experimental study of solute transport through fractured porous media. ICER-12, Number 22-24, 2012 **at UMT Kuala Terengganu, Malaysia.**
24. **Sharma, P. K**., Ojha, C.S.P., Nitin Joshi, and Rahul Choudhary (2012). "Numerical simulation of solute transport with observed data in soil column experiment". ENSURE Feb. 23-26, 2012 at IIT Guwahati.
25. **Sharma, P.K**., Nitin Joshi, and Ojha, C.S.P. (2011). "Reactive transport through porous media with distance and time-dependent dispersion model". International conference on sustainable water resources management and climate change adaptation Feb 17-19, 2011 at NIT Durgapur.

26. **Sharma, P.K**. and Ojha, C.S.P. (2010). "Virus transport through fractured permeable porous media". EWRI of ASCE India 2010, Third International conference Jna 5-7,2010 at IIT Chennai.
27. **Sharma, P. K**., and Srivastava, R. (2009). "Analysis of Concentration Profiles for Reactive Transport in Fractured-Porous media". WEES–2009, India, P-1228-1234.
28. **Sharma, P. K**., and Srivastava, R. (2008). "Analysis of Spatial Moments for Reactive Transport through Fracture-Porous Matrix System".12thIACMAG–2008,GOA, India, P-2456-2462.
29. Shriram, **Sharma, P. K**., and Jawaid, S.M.A. (2008). "Numerical Analysis of Solute Transport through Porous Media". 12thIACMAG–2008, GOA, India, P-2529-2535.

C. NATIONAL CONFERENCES/SYMPOSIUMS/WORKSHOP: 13

❖ ***Membership of Professional Bodies***

1. Member of the Institution of Engineers (MIE)
2. Member of Indian Water Resources Society (IWRS)
3. Member of Indian Society for Hydraulics (ISH)
4. Member of the Association of Global Groundwater Scientists (AGGS)
5. Life Fellow of the Indian Geotechnical Society (IGS)

❖ **Exchange program for capacity building to strength African Centre of Excellence (ACE)**

Name of PhD student: Mr Gustavio Okwir
Country: Tanzania
Visiting time: From August-2019 to January 2020

The student stayed at IIT Roorkee and worked on Groundwater under my supervision. His Ph.D. thesis was awarded in-2023

❖ ***M.Tech. Dissertations Supervised*: 46**

S. No.	Name of student	Title of Dissertation	Year of Awarded
1.	Gaurav Verma	Mapping Groundwater Recharge Potential Zones in Khondalitic Terrain of India Using Multi-Criteria Decision-Making Techniques	2023
2.	Himanshu Patel	Assessment of Groundwater Vulnerability to Pollution in aquifer in Haridwar District, India	2023
3	Rahul P. R.	Sediment transport modelling of rivers Bharathapuzha & Periyar using HEC-RAS	2023
4.	Sudhanshu Kumar	Flood forecasting using Artificial Neural Network (ANN) for Godavari region	2023
5.	Bhushan Nagnath Ubale	Drought forecasting using Artificial Neural Network (ANN) for Vidarbha region	2022
6.	Pratibha Singh Dodve	Study of reactive solute transport through dual permeability porous media	2021
7.	Siddhant Gautam	Study on subsurface water content using Electrical Resistivity Tomography	2021
8.	Abhishek Yadav	Hydraulic modelling of Tapi river basin using HEC-RAS	2021
9.	Joshit Kumar Singh	Study on geophysical exploration using electrical Resistivity tomography	2020
10.	Krishan Kant Gautam	Study on infiltration characteristics of soil	2020

11.	Shashank Singhal	Solute transport in porous media using spatial fractional advection-diffusion equation	2019
12.	Brijesh Kumar Singh	Scour around bridge pier in gravel bed (Co-supervisor- Dr. Z. Ahmad)	2019
13.	Monil Garg	Effect of Interference of piers on scour (Co-supervisor- Dr. Z. Ahmad)	2018
14.	Sagar Manchanda	Groundwater Exploration using Ground Magnetic Resonance (GMR) (Co-supervisor- Dr. C.S.P. Ojha)	2017
15.	Anuj Singh Chaudhary	Solute transport through triple permeability media: An experimental Study (Co-supervisor- Dr. C.S.P. Ojha)	2017
16.	Hansraj Kalwaniya	Flow of Fluids through porous media: An experimental study	2017
17.	Ashutosh Kumar Gupta	Scour Around Pier under Submerged condition (Co-supervisor- Dr. Z. Ahmad)	2017
18.	Melsew Berihun	Scour below underwater pipes in a channel (Co-supervisor- Dr. Z. Ahmad)	2017
19.	Sourabh Kakani	Numerical modeling of reactive transport through fractured porous media (Co-supervisor- Dr. C.S.P. Ojha)	2016
20.	Muskan Mayank	Modeling of solute transport through unsaturated porous media (Co-supervisor- Dr. C.S.P. Ojha)	2016
21.	Rishi Kumar Garhewal	Bridge scour in constricted flows (Co-supervisor- Dr. Z. Ahmad)	2016
22.	Deepika Sharma	Flow and scour pattern around submerged spur dikes (Co-supervisor-Dr. Z. Ahmad)	2016
23.	K Rajsekhar	Numerical modeling of virus transport through unsaturated porous media	2015
24.	Ravinder Kumar Singh	Experimental study on contraction scour in cohesionless soil (Co-supervisor-Dr. Z. Ahmad)	2015
25.	Angad Kumar Sharma	Scour in cohesionless sediment bed under submerged inclined jets (Co-supervisor-Dr. Z. Ahmad)	2015
26.	Suman Pran Sonowal	Modeling contaminant transport through fractured porous media	2014
27.	Sumit Kumar	Modeling of unsaturated flow using HYDRUS Software (Co-supervisor- Dr. K.S. Hari Prasad)	2014
28.	Niranjan Kumar	Modeling Pathogen transport through subsurface (Co-supervisor- Dr. K.S. Hari Prasad)	2014
29.	Yogendra Kumar	Solute transport through homogeneous and heterogeneous porous media: Experimental study	2013
30.	Murari Kumar	Model Assisted planning of Ground water Development (Co-supervisor-Dr. D. Kashyap)	2013
31.	Manish Kumar Sant	Sediment removal efficiency of vortex chamber type of sediment extractor (Co-supervisor-Dr. Z. Ahmad)	2013
32.	Sabir Hussain	Discharge characteristics of orifice type Spillway under oblique Approach Flow (Co-supervisor-Dr. Z. Ahmad)	2013
33.	Umang Dixit	Contaminant transport through fractured porous media: An experimental study	2012
34.	Rahul Choudhary	Simulation and experimental study on solute transport in soil columns	2012
35.	Devraj Patel	Planning of Groundwater Development using Embedding Technique (Co-supervisor-Dr. D. Kashyap)	2012
36.	Zubair Khan	Numerical modeling of contaminant transport through layered soil (Co-supervisor-Dr. V.A. Sawant)	2012

37.	Arvind Kumar Yadav	Transport of reactive contaminants through porous media-an experimental study	2011
38.	B Kranthi Kumar Reddy	Simulation of riverbank filtrate turbidity-case study (Co-supervisor-Dr. K.S.Hari Prasad)	2011
39.	Manish Kumar Meena	Experimental and numerical study of solute transport in layered soil (Co-supervisor-Dr. C.S.P. Ojha)	2010
40.	Pesala Subrahmanyam	Stochastic modeling of Groundwater flow and Contaminant Transport (Co-supervisor-Dr. D. Kashyap)	2009
41.	C. G. Varanasi	Analysis of Furrow Irrigation and Estimation of Infiltration Parameters	2009
42.	Ravi Pratap Gupta	Lead removal from industrial wastewater using absorbent material (Co-supervisor-Dr. S.M. Ali Jawaid, MMMEC Gorakhpur)	2008
43.	Ravi Ranjan Sahay	Numerical Analysis of Microbial Contaminant Transport through Porous media (Co-supervisor-Dr. S.M. Ali Jawaid, MMMEC Gorakhpur)	2007
44.	Ram Milan Verma	Treatment of Arsenic Contaminated Groundwater using Iron Oxide and Local Sand (Co-supervisor-Dr. S.M. Ali Jawaid, MMMEC Gorakhpur)	2007
45.	Thakur Narendra Singh	Effect of industrial effluent on the engineering properties of expensive clay (Co-supervisor-Dr. S.M. Ali Jawaid, MMMEC Gorakhpur)	2006
46.	Satya Narain	Dye Waste Water to Remove Color and Dissolved Organic Matter from Waste Product (FLYASH & BAGASSE)	2006

❖ ***International and national Conferences Attended***

1. **HYDRO 28th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, December 21-23, 2023 at NIT Warangal**
2. First IITM International conference on circular Economy for sustainable water management (SuWaM-2022) **online from March 23-25, 2022.**
3. European Geosciences Union General Assembly (EGU 2018) **Vienna Austria, during 8–13 April 2018**
4. **HYDRO-2017, December 21-23, 2017 at Ahmedabad.**
5. International Conference on Water Resource and Environment (WRE2016) at Guang Dong Hotel in **Shanghai**, July 23-26, 2016
6. HYDRO-2015 at **IIT Roorkee**
7. HYDRO-2014 at **MANIT Bhopal**
8. FMFP-2014 at **IIT Kanpur**
9. IPWE-2013 at **Izmir, Turkey**.
10. ICER-2012 at **UMT Kuala Terengganu Malaysia**
11. International conference, ENSURE-2012 at **IIT Guwahati**
12. HYDRO-2011 at **NIT Surat**
13. International conference 2011 at **NIT Durgapur**
14. EWRI ASCE Conference 2010 at **IIT Chennai**
15. WEES-2009, at New Delhi.
16. EU-India International River Bank Filtration Conference, November 18-19,2006, at I.I.T. Roorkee
17. National Conference HYDRO-2005, SIT Tumkur
18. National Conference on GEN-2005, MNNIT, Allahabad.
19. National Symposium on Hydrology, 2004, NIH Roorkee.
20. SAGE 2003, I.I.T. Kanpur

❖ **Consultancy Project**

- **P.I.:** "Design of River training and bank protection work for four rivers in Uttarakhand state" (Amount of Rs. 25 Lakhs, and Sponsored by Design, Rites Bhawan Gurgaon, from June 17, 2016 to June-2017)
- **Co-P.I**.: "Morphological Study of Rivers Ganga, Sharda and Rapti using Remote Sensing Technique" (Amount of Rs. 2,28,54,024 and Sponsored by Director, Morphology Directorate, CWC, Sewa Bhawan New Delhi, from March 27, 2015 to June, 15, 2017; P.I.: Prof. Z. Ahmad)

- **Co-P.I.: "**Hydrogeological study for finding the causes of Building cracks in Pur village, Bhilwada, Rajsthan" (Amount Rs 16 Lacs, and sponsored by District Magistrate, Bhilwada, Rajasthan, from November 2019 To March 2020; PI: Dr B. K. Yadav, Department of Hydrology)
- **Co-P.I.:** Evaluation of Plan Scheme "R&D Programme in Water Sector" of MoWR during XI Plan period in respect of National Institute of Hydrology (NIH), Roorkee (Amount of Rs. 35,58,067 and Sponsored by Ministry of Water Resources Government of India, New Delhi, completed in May-2016; PI: Prof. Deepak Kashyap)
- **Co-P.I.:** Sand Replenishment study of Mahanadi and its tributaries in Chhattisgarh" (Amount Rs. 4,89,91,082=00

  Funded by Director of Geology and Mining New Raipur Government of Chhattisgarh, from June 2020-2024) P.I.

  Prof. Z Ahmad)

It is declared that all the information given above is true to the best of my knowledge and belief.

P K Sharma

Date: **27-12-2023** **(P. K. Sharma)**
Place: Roorkee