Curriculum Vitae

Dr. K. S. Hari Prasad

Professor

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Academic Qualifications

- Ph.D. (Civil Engineering), Indian Institute of Science, Bangalore, 1996.
- M.E. (Hydromechanics and Water Resources) with Distinction, Indian Institute of Science, Bangalore, 1990.
- B.E. (Civil Engineering) with Distinction, J. N. T. University, Hyderabad, 1987.

Employment History

- Professor, Civil Engg. Dept., IIT Roorkee (since Oct. 2012)
- Associate Professor, Civil Engg. Dept., IIT Roorkee (Feb. 2007-Oct. 2012)
- Assistant Professor Civil Engg. Dept, IIT Roorkee (Sep. 2001-Feb. 2007)
- Assistant Professor Civil Engg. Dept, Univ. of Roorkee (June 2001-Sep. 2001)
- Lecturer, Civil Engg. Dept., Univ. of Roorkee (Nov. 1998- June 2001)
- Visiting Scholar, Hong Kong Univ. of Science and Technology (March 1997- Oct. 1998)

Field of Specialization

Hydraulics, Channel Hydraulics, Hydrology, Water Resources and Irrigation Engineering

Book Chapter

River Bank Filtration, C S P Ojha, K S H Prasad, Vijay P Singh and A K Thakur, 2017, Hand Book of Applied Hydrology, Chapter 147, McGraw Hill Education, ISBN: 978-0-07-183509-1, MHID: 0-07-1835091

Research Publications in International Journals (SCI)

1. Depth averaged velocity and stage-discharge relationships in compound channels with composite roughness, Ebissa Gadissa Kedir, Ojha, C. S.P. and Hari Prasad, K.S., Environmental Fluid Mechanics, https://doi.org/10.1007/s10652-024-09987-9
2. Effect of Salinity on Crop Growth and Soil Moisture Dynamics: A Study with Root Water Uptake Model. Goet, G., Sonkar, I., Kumar, S., Hari Prasad, K. S., and Ojha, C. S. P. Journal of Hazardous, Toxic, and Radioactive Waste, 28(3), 04024009 (2024).
3. Boundary Shear Stress and Apparent Shear Forces in Compound Channels with Different Floodplain Widths. Gadissa Kedir Ebissa, C. S. P. Ojha, and KS Hari Prasad. ISH Journal of Hydraulic Engineering 30.1 (2024): 58-67.
4. Elucidating the Prediction Capability of Neural Network Model for Estimation of Crop Water Stress Index of Rice. Cherie Workneh, Aschalew, K. S. Hari Prasad, and Chandra Shekhar Ojha ISH Journal of Hydraulic Engineering 29.sup1 (2023): 92-103.
5. Development of a Framework for Cost–Benefit Analysis of I-Head and T-Head Groynes Based on Scour and Turbulent Flow Characteristics. Mall M., Priyanka, Hari Prasad, K. S., and Ojha, C. S. Sustainability, 15(20), 15000 (2023).
6. A Numerical Model for Simulating Soil Moisture Dynamics and Root Water Uptake under Saline Irrigation. Kumar, S., Hari Prasad, K. S., & Ojha, C. S. P.ISH Journal of Hydraulic Engineering, 29(3), 327-340 (2023).
7. Mathematical Transport System of Microconstituents. Dwarikanath Ratha, Richa Babbar, K.S. Hari Prasad, C.S.P. Ojha, Manoj Baranwal, Prangya Ranjan Rout, Aditya Parihar. Microconstituents in the Environment: Occurrence, Fate, Removal and Management (2023): 107-131.
8. Yield, Water, and Carbon Footprint of Rainfed Rice Production under the Lens of Mid-century Climate Change: A Case Study in the Eastern Coastal Agro-climatic Zone, Odisha, India. Behera, S. S., Ojha, C. S. P., Prasad, K. H., & Dash, S. Environmental Monitoring and Assessment, 195(5), 544 (2023).
9. Effect of Clogging on Riverbank Filtration: An Experimental Analysis Using Ganges Riverbed Sediment.Poojitha, S. N., K. S. Hari Prasad, and C. S. P. Ojha Journal of Hazardous, Toxic, and Radioactive Waste 26.2 (2022): 04021065.
10. Effect of sodicity on soil-water retention and hydraulic properties, Satendra Kumar, Bundela, D. S. and Hari Prasad K. S., ASCE Journal of Irrigation and Drainage Engineering, 146(5), https://doi.org/10.1061/(ASCE)IR.1943-4774.0001461
11. Sugarcane Yield Forecasting Model Based on Weather Parameters A. K. Verma, P. K. Garg, K. S. Hari Prasad, V. K. Dadhwal, S. K. Dubey, A. Kumar Sugar Tech, 23, 158-166, 2021
12. Estimation of Root Water Uptake and Soil Hydraulic Parameters from Root Zone Soil Moisture and Deep Percolation. Sonkar, Ickkshaanshu, Hari Prasad Kotnoor, and Sumit Sen Agricultural Water Management 222 (2019): 38-47.
13. Modelling Moisture Flow in Root Zone: Identification of Soil Hydraulic and Root Water Uptake Parameters. Sonkar, Ickkshaanshu, G. S. Kaushika, and K. S. Hari Prasad ASCE Journal of Irrigation and Drainage Engineering, 144, no. 10 (2018): 04018029.
14. Deep Percolation under Irrigated Water Intensive Crops, Hatiye, S.D., Hari Prasad, K.S., Ojha, C.S.P., 2018. ASCE Journal of Irrigation and Drainage., 144(8), 04018018

15. Estimation of non-linear root water uptake parameter using genetic algorithms. Sonkar I, Hari Prasad K. S. & Ojha C. S. P. 2017. ISH Journal of Hydraulic Engineering, doi: 10.1080/09715010.2017.1400411
16. Water Balance and Water Productivity of Rice Paddy in unpuddled Sandy Loam Soil. Springer, Hatiye, S.D., Hari Prasad, K.S., and Ojha, C.S.P., Sustain. Water Resource. Manage., doi. 10.1007/s40899-016-0076-1, (in press).
17. Effect of Infiltration on Sediment Transport in irrigated Channels Rohilla, K., Hari Prasad, K.S., and Ojha, C.S.P. 2016. ASCE Journal of Irrigation. And Drainage., doi:10.1061/(ASCE)IR.1943-4774.0001018
18. Study of deep percolation in paddy fields using Drainage-type lysimeters under varying regimes of water application. Hatiye, S.D., Hari Prasad, K.S. and Ojha, C.S.P. ISH Journal of Hydraulic Engg. doi:10.1080/09715010.2016.1228086.
19. Evaluating Irrigation Scheduling Efficiency of Paddy Rice and Berseem Fodder Crops in Sandy Loam Soil. Hatiye, S.D., Hari Prasad K.S., Ojha, C.S.P., Kaushika, G.S., and Adeloye, A.J. 2015. Irrigation Drainage System Eng., 4:147. doi:10.4172/2168-9768.1000147.
20. Estimation and Characterization of Deep Percolation from Rice and Berseem Fields Using Lysimeter Experiments on Sandy Loam Soil-Case Study. Hatiye, S.D., Hari Prasad, K.S., Ojha, C.S.P., and Adeloye, A.J. 2016. ASCE J. Hydrolo. Eng., 21(5), 05016006. doi.org/10.1061/ (ASCE) HE.1943-5584.0001365.
21. Substrate removal kinetics and performance assessment of a vermifilter bioreactor under organic shock load conditions, Kumar, T., Singh, N., Prasad, K.S.H. 2016. Water Science and Technology. 74(5):1177-84.
22. A comparative study on vermifiltration using epigeic earthworm Eisenia fetida and Eudrilus eugeniae. Kumar, T., Rajpal A., Arora, S., Bhargava R., Prasad, K.S.H. 2016. Desalination and Water Treatment. 57(14), 6347-54.
23. Performance evaluation of Vermifilter at different hydraulic loading rate using river bed material. Kumar, T., Rajpal A., Bhargava R., Prasad, K.S.H. 2014. Ecol. Eng. 62, 77-82.
24. Evaluation of Vermifiltration process using natural ingredients for effective wastewater treatment. Kumar, T., Bhargava, R., Prasad, K.S.H., Pruthi, V. 2015. Ecol. Eng. 75, 370-377.
25. Geostatistical analysis of soil moisture distribution in a part of Solani River catchment, Kamal Kumar, M. K. Arora and K. S. Hari Prasad, 2014, Applied Water Science, DOI 10.1007/s13201-014-0202-x.
26. Study of water cloud model vegetation descriptors in estimating soil moisture, Kamal Kumar, K. S. Hari Prasad and M. K. Arora, 2014. Hydrological Processes, DOI:10.1002/hyp.10344.
27. Nondimensional Relationship for Root Water Uptake in Crops, Vijay Shankar, Rao S. Govindaraju, C. S. P. Ojha and K. S. Hari Prasad, 2013, Journal of Irrigation. And Drainage., ASCE, 139(11):961-964.
28. Optimizing Water Use in Irrigation – A Review, Vijay Shankar, K. S. Hari Prasad, C. S. P. Ojha and Rao S Govindaraju, 2013, Journal of Indian Institute of Science, 93(2):209-226.
29. Pathogen Transport in Groundwater – Estimation of Transport Parameters, Ritesh Agrawal, Nitin Nandwani and K. S. Hari Prasad, 2013, ISH Journal of Hydraulic Engg., Taylor and Francis, 19(3): 250-256.

30. Effect of Hydraulic conductivity on soil moisture uptake under saline conditions for wheat crop, C. P. Devatha, C. S. P. Ojha, K S. Hari Prasad and Arun Kumar, T., 2013, ISH Journal of Hydraulic Engg., Taylor and Francis, 19(2): 111-120.
31. Model for nonlinear water uptake parameter, Vijay Shankar, K. S. Hari Prasad, C. S. P. Ojha and Rao S Govindaraju, 2012, Journal of Irrigation. And Drainage., ASCE, 138(10):905-917.
32. Virus Transport through unsaturated zone: Analysis and Parameter Identification, C. S. P. Ojha, K. S. Hari Prasad, D. N. Ratha and Rao Y Surampalli, 2012, Journal of Hazardous, Toxic and Radioactive Waste Management, ASCE 16(2): 96-105.
33. Estimation of water cloud model vegetation parameters by genetic algorithms, Kamal Kumar, K. S. Hari Prasad and M. K. Arora, 2012, Hydrological Sciences Journal, UK, 57(4): 776-789.
34. Estimation of border strip soil hydraulic parameters, Shobha Ram, K. S. Hari Prasad, Ajai Gairola, M. K. Jose and M. K. Trivedi, 2012, Journal of Irrigation. And Drainage., ASCE, 138(6): 493-502.
35. Identification of virus transport parameters in groundwater: Data errors and bias, K. S. Hari Prasad, D. N. Ratha and C. S. P. Ojha, 2012, Journal of Hydro Environment Research, Elsevier, 6, 41-50.
36. Estimation of Unconfined Aquifer Parameters by Genetic Algorithms, M. Rajesh, Deepak Kashyap and K. S. Hari Prasad 2010, Hydrological Sciences Journal, UK, 55(3):403-413.
37. A Variably Saturated Numerical Model for Seepage and Stability Analyses of an Embankment Dam with a Central Core K.S. Hari Prasad, C.S.P. Ojha, Gopi Siddappa and I.A. Abdul Hussain, 2010, International Journal of Geotechnical Engineering, USA, 4(1):139-150.
38. Estimation of Unsaturated Hydraulic Parameters from Infiltration and Internal Drainage Experiments, K. S. Hari Prasad, C. S. P. Ojha, P. N. Chandramouli and Chandra A. Madramootoo, 2010, Journal of Irrigation. And Drainage., ASCE, 136(11), 766-773.
39. Analysis of Virus Transport in Groundwater and Identification of Transport Parameters, D. N. Ratha, K. S. Hari Prasad and C. S. P. Ojha, 2009, ASCE Practice Periodical of Hazardous, Toxic and Radioactive Waste Management, 13(2), 98-109.
40. Evaluation of a Non-Linear Root Water Uptake Model, C. S. P. Ojha, K. S. Hari Prasad, Vijay Shankar and C. A. Madramootoo, 2009, Journal of Irrigation. And Drainage., ASCE, 135(3), 303-311.
41. Crop coefficient calibration of Maize and Indian Mustard in a semi–Arid Region, Vijay Shankar, C. S. P. Ojha and K. S. Hari Prasad, 2009, ISH Journal of Hydraulic Engineering, 67-84.
42. Evaluation of FAO Recommended Crop Coefficients for Maize and Wheat in a semi arid region of India, Vijay Shankar, C. S. P. Ojha and K. S. Hari Prasad, 2009, Journal of Soil and Water Sciences, 29(1) 52-62.
43. Estimation of Partially Penetrated Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique, Alemayehu Shitaye A., Ojha C. S. P. and Hari Prasad K. S., 2009, ISH Journal of Hydraulic Engg. 32(3-4) 221-240.
44. Seepage Modelling Assisted Optimal Design of a Homogeneous Earth Dam: Procedure Evolution, Abdul Hussain, I. A., Kashyap, D. and Hari Prasad, K. S., 2007, Journal of Irrigation. And Drai., ASCE, 133(2), 116-130.
45. A Finite Volume Model for the Solution of the Advection – Dispersion Equation, Dwarikanatha Ratha, K. S. Hari Prasad and C. S.P. Ojha, 2007, ISH Journal of Hydraulic Engineering, 13(2),122-135

46. A Finite Element Numerical Model for Analysis of Unsaturated Flow in Layered Soils: K. S. Hari Prasad, I. A. Abdul Hussain, and Jitendra Singh, 2007 Water and Energy International, 64(4), 40-46.
47. Optimal Well Location in a Riverbank Filtration System, Hari Prasad, K. S., Grsichek, T., Ojha C. S. P., Ray, C., and Patne M. M., 2007, IWWA Journal, XXXIX (4): 303-311.
48. Transient Seepage Analysis of an Earth Dam: Sensitivity to Anisotropy and Soil Properties, 2006, Gopi Siddappa, Hari Prasad, K. S., Ojha, C. S. P., Abdul Hussain, I. A. and Pradeep Bhargava, Dam Engineering Journal, UK, Vol. XVI (4):281-292
49. Stability Analysis of Earth Dam Based on Transient Seepage Analysis, Gopi Siddappa, Ojha, C. S. P., Hari Prasad, K. S., Abdul Hussain, I. A. and Pradeep Bhargava, 2006, Dam Engineering Journal, UK, XVII, Issue 2, 175-192.
50. MacCormack Scheme Based Numerical Solution of Advection – Dispersion Equation, Pradeep Verma, Hari Prasad, K. S. and Ojha, C. S. P., 2006, ISH Journal of Hydraulic Engineering, 12(1):27-38.
51. A Simple Numerical Model for Assessment of Groundwater Recharge, K. S. Hari Prasad, M. S. Mohan Kumar, M. Sekhar and B. Chandra Sekhar, 2005, Journal of Indian Water Resources Society, 25(1): 49-60.
52. Analysis of Saturated – Unsaturated Flow near a Pumping Well in an Aquifer - Water Table Aquitard System, Hari Prasad K. S., Mohan Kumar, M. S. and Sekhar M. 2005, Hydrology Journal, 28(1-2):19-31.
53. Stochastic Analysis of Solute Transport in Soils, Hari Prasad K. S., Mohan Reddy M. M. and Ojha, C. S. P. 2004, Hydrology Journal, 27(3-4):29-40.
54. Modelling of Pore Water Pressure Distribution in an Earthen Dam and Evaluation of its Slope Stability, 2004, Abdul Hussain, I. A., Hari Prasad, K. S. and Kashyap, D. Dam Engineering Journal, UK, Vol. XV (3), 197-217
55. Estimation of Unsaturated Soil Parameters: Effects of Data Errors and Choice of Objective Function, Hari Prasad K. S., Trivedi M. K. and Agrawal K. K., 2003, ISH Journal of Hydraulic Engineering, 9 (1), 46-60.
56. Modelling Flow Through Unsaturated Zone: Sensitivity to Unsaturated Soil Properties, Hari Prasad K. S., Mohan Kumar M. S. and Sekhar M., 2001, Sadhana, Indian Academy of Sciences, 26(6), 517-528.
57. A Priori Identifiability of Unsaturated Soil Parameters, Ghidaoui M. S. and Hari Prasad K. S., 2000, Journal of Irrigation. And Drai., ASCE, 126(3), 163-171.

Conferences Research papers

1. Parameter Estimation of Oxygen Transfer at Hydraulic Structures by Ashwini Tiwari, Kotnoor Hari Prasad, and Chandra Shekhar Prasad Ojha. No. EGU24-15527. Copernicus Meetings, 2024.
2. Irrigation Scheduling for Wheat (Triticum aestivum) Crop Using the Crop Water Stress Index by Aschalew Cherie Workneh, KS Hari Prasad, and Chandra Shekhar Prasad Ojha. AGU23 (2023).
3. Comparison of Feedforward Back Propagation and Self-Organizing Map for Prediction of Crop Water Stress Index of Rice by A.C. Workneh, K. S. Hari Prasad, and C. S. P. Ojha. World Environmental and Water Resources Congress 2023. Place: Henderson, NV, USA.
4. Performance evaluation of Feedforward Back Propagation and Self-Organizing Map for Prediction of Crop Water Stress Index of Rice by A.C. Workneh, K. S. Hari Prasad, and C. S. P. Ojha. 21st International Symposium on Sustainable Water Resources Development. Place: Arba Minch University, Arba Minch, Ethiopia.

5. Experimental Study of Aeration Potential of Sharp Crested Weirs by Ashwini Tiwari, KS Hari Prasad, and Ojha Chandra Shekhar Prasad. AGU23 (2023).
6. Modelling Depth Averaged Velocity and Boundary Shear Stress Distribution with Complex Flows by Ebissa Kedir, Chandra Ojha, and Hari Prasad. No. GC11-solidearth-46. Copernicus Meetings, 2023.
7. Flow Resistance and Stage-Discharge Relationships in Compound Channels with Composite Roughness by Gadissa Kedir, Ebissa, C. S. P. Ojha, and K. S. Hari Prasad. World Environmental and Water Resources Congress 2023.
8. Genetic Algorithm for Estimating Non-linear Parameters in Root Water Uptake Model: A Model-Linkage Approach by Gaurav Goet, Ickkshaanshu Sonkar, and KS Hari Prasad. AGU23 (2023).
9. Hydraulic Performance of I-Head and T-Head Groynes in Series by Manish Mall, Hari Prasad K.S., and Ojha C.S.P. EWRI 2023, Henderson, US.
10. Estimation of Non-Linear Water Uptake Parameter using Genetic Algorithm for Sodic Soils by Gaurav Goet, Ickkshaanshu Sonkar, and Kotnoor Hari Prasad. EGU General Assembly Conference Abstracts. 2022.
11. Experimental Study on Scour and Flow Field around a T-Head and I-Head Groyne by Manish Mall and Hari Prasad K.S. Su WaM 2022, IIT Madras.
12. Climate Change Impact on Blue Water Footprint of Kharif Rice Production at Farm-Level: A Case Study in India Soumya Behera, Hari Prasad KS, and Chandra Shekhar Prasad Ojha AGU Fall Meeting Abstracts, Vol. 2021, 2021.
13. Modelling Root Water Extraction under Water and Osmotic Stress Conditions S. Kumar and K. S. Hari Prasad RWC 2020, 26-28 Feb 2020, IIT Roorkee, India. (Accepted for presentation).
14. Modelling Root Water Uptake and Soil Moisture Dynamics under Saline Water Conditions S. Kumar and K. S. Hari Prasad AGU 2019, 9-13 Dec 2019, San Francisco, CA, USA.
15. Variability Study on Irrigation Water Requirement for Winter Wheat Cropping Under Changing Climate K. GS and K. S. H. Prasad AGU Fall Meeting Abstracts, Vol. 2019, 2019.
16. Effect of Soil-Salt Water Interaction on Gravity Drainage in Soils S. Kumar and K. S. Hari Prasad IGWC-2019, 21-24 Oct 2019, IIT Roorkee, India.
17. Analysis of Decadal Variation of Plant Root-water Uptake for Winter Cropping of Wheat and Berseem K. Gujjanadu Suryaprakash and K. S. H. Prasad AGU Fall Meeting Abstracts, Vol. 2018, 2018
18. Root Zone Modelling Under Water Stressed Condition Using Compensated Nonlinear Root Water Uptake Model Ickkshaanshu Sonkar and KS Hari Prasad AGU Fall Meeting Abstracts, Vol. 2018, 2018.
19. Effect of Soil-Salt Water Interaction on Soil Water Retention Characteristics Satendra Kumar and KS Hari Prasad AGU Fall Meeting Abstracts, Vol. 2018, 2018.
20. Root Zone Modelling Under Water Stressed Condition Using Compensated Root Water Uptake Model I. Sonkar and K. S. Hari Prasad AGU 2018, 10-14 Dec 2018, Washington D.C., USA.
21. Effect of Salinity on Soil Water Retention Characteristics Satendra Kumar and Hari Prasad K. S. IGWC 2017, 11-13 Dec 2017, New Delhi, India.
22. Modelling and Evaluation of Non-Linear Root water Uptake for Winter Cropping of Wheat and Berseem K. GS and K. S. H. Prasad AGU Fall Meeting Abstracts, Vol. 2017, 2017.
23. Pseudo Steady State Numerical Model for Groundwater Pollution Source Identification J. Chaubey and D. Kashyap AGU Fall Meeting, American Geophysical Union, San Francisco, 12-16 Dec 2016, Poster id: H41F-1377.

24. Investigation of Deep Percolation Using Process-Based and Simple Water Balance Models S.D. Hatiye, K.S. Hari Prasad, and C.S.P. Ojha Fourth International Conference on "Advancements in Science and Technology in Civil and Water Resources Engineering," June 17-18, 2016. Bahir Dar University, Bahir Dar, Ethiopia.
25. Estimation of Deep Percolation Return Flow from Paddy Fields Using Hydrus-ID Flux-Based Model S.D. Hatiye, K.S. Hari Prasad, and C.S.P. Ojha 20th International Conference on "Hydraulics, Water Resources, River Engineering (HYDRO-2015 International)," December 17-19, 2015. Indian Institute of Technology, Roorkee, India.
26. Groundwater Pollution Source Identification Through Inverse Modelling J. Chaubey and D. Kashyap Proceedings, HYDRO-2015 20th International Conference on Hydraulics, Water Resources, and River Engineering, Indian Society of Hydraulics and Indian Institute of Technology Roorkee, Roorkee, HYD-345.
27. Experimental Study of Sediment Transport in Irrigated Channels Considering the Effect of Infiltration on K. Rohilla, K.S. Hari Prasad, and C.S.P. Ojha Hydro 2015, International Conference of Indian Society for Hydraulic, IIT Roorkee
28. Crop-Water Balance Studies and Yield Assessment for a Deficit Irrigated Winter Crop Kaushika G.S., Hari Prasad K.S., Samuel Dagalo Hatiye, and Ojha C.S.P. Presented at the HYDRO International-2015 Conference at IIT Roorkee, 2014.
29. Estimation of Deep Percolation from Rice Paddy Fields Using Lysimeter Experiments on Sandy Loam Soil S.D. Hatiye, K.S. Hari Prasad, C.S.P. Ojha, G.S. Kaushika Presented at the HYDRO International-2014 Conference at MANIT Bhopal, 2014.
30. A Coupled Overland-Variably Saturated Flow Model for Border Irrigation Shobha Ram, K. S. Hari Prasad, and A. Gairola 3rd International Perspective on Current & Future State of Water Resources & the Environment (EWRI OF ASCE), January 5-7, 2010, IIT Madras, Chennai, India.
31. Assessment of Moisture Depletion Patterns in Root Zone under Potential and Limiting Soil Moisture Conditions Vijay Shankar, Hari Prasad K.S., C.S.P. Ojha International Conference on "Civil Engineering in New Millennium: Opportunities and Challenges," January 11th-14th, 2007, BESU Hawrah, WB, India.
32. Evaluation of Plant Moisture Extraction for Different Types of Soils Using Simulation Modelling Vijay Shankar, CSP Ojha, K.S. Hari Prasad 6th International R&D Conference Sustainable Development of Water and Energy Resources - Needs and Challenges, February 13th-16th, 2007, Lucknow, India.
33. Effect of Shallow Groundwater Table on the Moisture Depletion Pattern in Crop Root Zone Vijay Shankar, C.S.P Ojha, K.S. Hari Prasad International Conference on "Hydrology and Watershed Management" (ICHWAM-2006), December 5th-8th, 2006. CWR, IST, Jawaharlal Nehru Technological University, Hyderabad, India.
34. Root Zone Moisture Depletion-Based Irrigation Scheduling for Cash, Oil, and Forage Crops Using Simulation Modelling Vijay Shankar, Hari Prasad, K.S., C.S.P. Ojha International Conference on "Hydrology and Watershed Management" (ICHWAM-2006), December 5th-8th, 2006. CWR, IST, JNTU, Hyderabad, India.
35. Irrigation Management to Counter Devastating Effects of Saline Irrigation on Agricultural Productivity Vijay Shankar, Hari Prasad, K.S., C.S.P. Ojha National Conference on "Technology for Disaster Management" (TDM-06), September 28th-29th, 2006, National Institute of Technology, Hamirpur, HP, India.
36. A Finite Analytic Model for Analysis of Recharge Through Unsaturated Soils M. S. M. Kumar, K. S. H. Prasad, M. Sekhar 1995, UNSAT'95, Paris, France 6-8 September 1995 pp. 1095-1100.

37. Flow to a Well in a Fractured Aquifer - Influence of the Unsaturated Zone K.S. HARI Prasad, M S Mohan Kumar, M. Sekhar 1994. 10th International conference on computational methods in water resources.

Ph.D. theses Supervised.

Awarded:

1. **Seepage Analysis Aided Optimal Design of Homogeneous Earth Dams**, by Abdul Hussain, I. A. Indian Institute of Technology Roorkee, 2004. (Co-guide: Prof. Deepak Kashyap)
2. **Seepage and Stability Analyses of Earthen Dams** by Gopi Siddappa, Indian Institute of Technology, Roorkee, 2006. (Co-guide: Prof. C. S. P. Ojha)
3. **Modelling of Moisture Uptake by Plants** by Vijay Shankar, Indian Institute of Technology, Roorkee, 2007. (Co-guide: Prof. C. S. P. Ojha)
4. **Analysis and Parameter Estimation of Virus Transport in Subsurface Porous Media**, by Dwarikanath Ratha, Indian Institute of Technology, Roorkee 2008. (Co-guide: Prof. C. S. P. Ojha)
5. **Estimation of Unsaturated Soil Parameters,** by P. N. Chandra Mouli, Indian Institute of Technology, Roorkee, 2009 (Co-guide: Prof. C. S. P. Ojha)
6. **Analysis of Border Strip Irrigation and Estimation of Infiltration Parameters,** by Shobha Ram, Indian Institute of Technology, Roorkee, 2010 (Co-guide: Dr. Ajai Gairola, Dr. Mathew K Jose)
7. **Soil Moisture Uptake by Plants under Saline Irrigation,** by C. P. Devatha, Indian Institute of Technology, Roorkee, 2010 (Co-guide: Prof. C. S. P. Ojha)
8. **Effect of Soil and Vegetation Characteristics on ENVISAT – ASAR Backscatter,** by Kamal Kumar Indian Institute of Technology, Roorkee, 2012: (Co-guide: Prof. Manoj Arora)
9. **Routing of Suspended Sediment Through Gravel Bed Rivers,** by Nilav Kumar Karna, Indian Institute of Technology, Roorkee, 2015: (Co-guide: Dr Sanjay Giri)
10. **Studies on Factors Affecting Vermifiltration for Wastwater Treatment** by Tarun Kumar, Indian Institute of Technology, Roorkee, 2015
11. **Study on Deep Percolation from Surface Irrigation,** by Samuel Dagalo Hatiye, Indian Institute of Technology, Roorkee, 2016
12. **Effect of Infiltration on Sediment Transport in Irrigationgated Channels,** by Kapil Rohilla, Indian Institute of Technology, Roorkee, 2017
13. **Sugarcane Crop Classification and Yield Estimation using Geospatial Techniques** by Amit Kumar Verma, Indian Institute of Technology Roorkee, 2017. (Co-guide: Prof. P K Garg)
14. **Groundwater Pollution Source Identification through Inverse Modelling** by Jyoti Chaubey, Indian Institute of Technology Roorkee, 2018. (Co-guide: Prof. D Kashyap)
15. **Irrigation Scheduling under Chaning Climate,** by Kaushika G S, Indian Institute of Technology Roorkee, 2019.
16. **Modelling Moisture Flow in Root Zone: Estimation of Root Water Uptake and Soil Hydraulic Parameters,** by Ickkshaanshu Sonkar**,** Indian Institute of Technology Roorkee, 2018. (Co-guide: Dr. Sumit Sen)
17. **Effect of Sodicity on Soil Hydraulic Properties and Root Water Uptake** by Satendra Kumar, Indian Institute of Technology Roorkee, 2021. (Co-guide: Dr. Sumit Sen)
18. **Modelling Flow in Prismatic and Non- Pismatic Compound Channels** by Ebissa Gadissa Kedir, 2024, (Co-guide: Dr C S P Ojha)

In Progress:

1. **Water Resources Management in Mahanadi and Sutlej Basins under Climate Change** by Sowmya Sucharita Behera
2. **Hydraulics of Flow around Spurs** by Manish Kumar Mall
3. **Modelling Root Water Uptake in Sloping Fields** by Sooorya
4. **Effect of sodicity on root water uptake: Analysis and parameter estimation by** Gaurav Goet
5. **Estimation of crop water stress index using machine learning techniques and Irrigation scheduling** by Ascahlew Cherie
6. **Modelling Aerated Flows over Weirs** by Ashwini Tiwari
7. **Analysis of Flow around Spurs** by Abhi Sangra
8. **Crop Water Stress in Saline Irrigation** by Palash Krishna Dandotia

M.E./M.Tech Thesis:

1. Analysis of Groundwater Flow for Central Part of Paler Sub Basin, Andhra Pradesh by R. D. Prasad, 2000, Co-guide : Prof. D.C. Singhal
2. Mass Conservative Numerical Scheme for Two Dimensional Variably Saturated Flow by Pervesh Kumar, 2000, Co-guide : Dr. Ajai Gairola
3. Analysis of the Inverse problem for Unsteady Unsaturated Flow by K. K. Agrawal, 2000.
4. Analysis of Flow in Furrow Irrigation System by Jaijeev Gupta, 2000, Co-guide : Prof. M. K. Mittal
5. Hydraulic Transients in Pipe Networks by Vara Prasad Babu Kota, 2001
6. Analysis of Unsaturated Flow, Sensitivity to Soil Parameters by Anil Kumar Bharti, 2001.
7. Estimation of Confined Aquifer Parameters using Pumping Test Data by Prasanth Mahto, 2001
8. A study of river change patern using Remote Sensing by B. Ramana Rao, 2001, Co-guide: Dr. S. K. Ghosh
9. Numerical Modelling of Solute Transport in Open Channels by P. Vijaya Mohan, 2002.
10. Numerical Modelling for Irrigation Scheduling of Crops by Samaiya Nitin Kumar, 2002.
11. Stochastic Analysis of Contaminant Transport Through Soils by M.M. Mohan Reddy, 2003, Co-guide : Dr. C. S. P Ojha
12. Analysis of Unsaturated Flow in Layered Soils by Jitendra Singh, 2003, Co-guide : Dr. Mahendra Singh
13. Fluid Structure Interaction in a Barrage by C. Janaki Ram, 2003, Co-guide : Prof. A.D. Pandey
14. Analysis of Soil Moisture Dynamics and Assessment of Recharge by Birudugadda Chandra Sekhar, 2003.
15. Applicability of Simplified Unsaturated Flow Models Under Large Uncertainty in Hydraulic Properties by Raja Sekhar Kalagati, 2004
16. Comparison of Numerical Models for Advection – Diffusion Equation by Madiki Vijay Kumar, 2004
17. Numerical Solution of Advection – Diffusion Equation by Pradeep Verma, 2004, Co-guide : Prof. C. S. P. Ojha

18. Kinematic Wave Model for Furrow Irrigation and Identification of Model Parameters by B.V.S. Jagadeesh, 2004, Co-guide : Prof. C. S. P. Ojha
19. Genetic Algorithm Assisted Analysis of Pumping Test Data by M. Rajesh, 2005, Co-guide: Prof. Deepak Kashyap
20. Estimation of Infiltration Parameters using Genetic Algorithms by G. Nataraj, 2005
21. Optimal Well Location in a Riverbank Filtration System by Manoj Patne, 2006, Co-guide: Prof. C. S. P. Ojha
22. Estimation of Unsaturated Soil Parameters by Vir Bahadur Singh, 2006, Co-guide: Prof. C. S. P. Ojha
23. Estimation of Unsaturated Soil Parameters from Infiltration and Internal Drainage Tests by Talari Venkata Gopal, 2008, Co-guide: Prof. C. S. P. Ojha
24. Estimation of Aquifer Parameters from Pumping Test Data using Genetic Algorithm by Alemayehu Shitaye Asfaw, 2008, Co-guide: Prof. C. S. P. Ojha
25. Analysis of Furrow Irrigation and Estimation of Infiltration Parameters by Chaitanya Gowri prasad Varanasi, 2009, Co-guide: Dr. P. K. Sharma
26. Estimation of crop evapotranspiration with dual crop coefficient approach by Rajesh Kumar, 2010, Co-guide: Prof. C. S. P. Ojha
27. Coliform transport in riverbank filtration by Neeraj Verma, 2010, Co-guide; Sri. U. B. Chitranshi
28. Analysis of Water quality data of the Hindon river by Muhammad Mustafa, 2010, Co-guide: Prof. Indu Mehrotra
29. Simulation of riverbank filtrate turbidity – case study by B. Kranthi Kumar Reddy, 2011, Co-guide: Dr. P. K. Sharma
30. Development of probability distributions for soil water retention characteristics by Rajesh Kumar Dayma, 2011
31. Analysis of flow through infiltration gallery by Avinash Arjun More, 2011, Co-guide: Prof. C. S. P. Ojha
32. Evaluation of root depth evapotranspiration relationship by Reena Sarpota, 2011, Co-guide: Prof. C. S. P. Ojha
33. Genetic algorithm assisted optimal design of riverbank filtration system by Divas Sharma, 2011, Co-guide: Sri. U. B. Chitranshi
34. Efficiency of Surface Irrigation by Deepak Agrawal, 2013,
35. Estimation of Deep Percolation in an Irrigation Field by Hitesh Upreti, 2013
36. Deevelopment of Rainfall Intensity Duration Frequency Curves for Roorkee City by Rajat Gupta, 2013 Co-Guide: Prof. D. Kashyap
37. Development of Soil Moisture Retention and Conductivity Relationship by Pankaj Kumar Yadav, 2013, Co-guide: Prof. D. Kashyap
38. Hydraulic Jump on Rough Sloping Floor by Sachin Chouhan, 2013
39. Sediment Transport in Channel: Effect of Infiltration by Swati Parashar, 2014, Co-guide: Dr. S P Harsha
40. Performance Evaluation of Surface Irrigation by Santosh Nogiya, 2014:, Co-guide: Prof. C S P Ojha
41. Modelling Pathogen Transport through Subsurface by Niranjan Kumar, 2014, Co-guide: Dr P K Sharma
42. Integrated Geophysical Monitoring of Groundwater Aquifers by Bonthu Yuri Kasparov, 2015, Co-Guide: Prof. R G S Sastry
43. Mathematical Modelling of River Meandering by Manish Kumar Mall, 2015, Co-guide: Prof. C S P Ojha
44. Analysis of Flow Through Infiltration Gallery by Amit Kumar, 2015, Co-guide: Prof. C S P Ojha

45. Leaching Requirement of Crops by Ritwick Mishra, 2016, Co-guide: Prof. D Kashyap
46. River bank Filtration: Clogging Effects by Seelam Naga Poojitha, 2016, Co-guide: Prof. C S P Ojha
47. Rainfall Shifts due to Climate Change by Kavita Dhiman, 2016, Co-guide: Prof. C S P Ojha
48. Study on Return Flows from Irrigation by Debarsi Naik, 2017
49. River Bank Filtration: Sensitivity to Aquifer Parameters by Amit Singh, 2017
50. Estimation of Confined Aquifer Parameters by Genetic Algorithm by Ajay Kumar Gautam, 2017
51. Identification of Open Channel Flow Parameters by Ebissa Gadissa, 2017
52. Performance Evaluation of Non Linear Root Water Uptake Models by Yogesh Kumar Khandelwal, 2018
53. Effect of Salinity on Soil Water Retention Characteristics by Gaurav Goet 2018
54. Estimation of nonlinear root water uptake parameter for water crop by Abhishek pal 2018
55. Effect of salinity on hydraulic conductivity of soil by Rohit Kumar Rajpoot 2019
56. Estimation of root water uptake parameter under different salinity conditions by Vaibhav Gupta 2020
57. Experimental study to analyze compensated root water uptake by Amarjeet Patel 2021
58. Analysis of flow around bridge structures using HEC -RAS by Anushruti kukreja 2021
59. Effect of varying discharge and varying diameter on discharge coefficient of orifice by Mayank Kumar Shringi 2021
60. Experimental study on I -Head and T-Head groynes by Pravesh Ranjan Panda 2022
61. Hydraulic performance of I-Head and T-Head groynes in series by Abhi Sangra 2023
62. Artificial neural networking on crop water stress index of paddy crop by Palash Krishna Dandotia 2023.
63. Aeration Performance of Sharp Crested Weir by Rupak Kumar 2024. (Co-Guide: Prof.C S P Ojha)
64. Flow Discharge and Parameter Estimation of Compound Channel by Nishant 2024. (Co-Guide: Prof. C S P Ojha)

Consultancy and Sponsored Research Projects

Sponsored Research Projects

1. Estimation of Unsaturated Soil Parameters, Sponsored by Department of Science and Technology, Govt. of India.
2. Groundwater Recharge Assessment by Soil Physics Measurements, Sponsored by Ministry of Human Resources Development
3. Modelling Moisture Uptake by Plants and Irrigation Scheduling (Incollaboration with School of Civil Engineering, Purdue University, USA), Department of Science and Technology under CP-STIO International Program
4. Conserving Water and Protecting India's Water Resources, McGill India Strategic Research Initiative, McGill University, CANADA
5. Team Member, IIT Roorkee, EU – India ICCP project on River Bank Filtration, Contract No. ASIE/2004/095-733, 2004-2006.
6. Co-Investigator, Mitigating Climate Change Impacts on Indian Agriculture through Improved Irrigation Management (Rs. 116.58 lacs,), Ministry of Earth Sciences,

Govt. of India and NERC UK. (In collaboration with Heriot-Watt University and Cranfiled University, UK.)

7. Pathogen Transport in Subsurface: Analysis and Estimation of Transport Parameters (Rs. 37 lacs, recommended for funding, Grant yet to be received), Department of Science and Technology, Govt. of India.
8. Co-Investigator, Sustaining Himalayan Water Resources under Changing Climate (Rs. 150 lacs), Ministry of Earth Sciences, Govt. of India and NERC UK (In collaboration with Heriot-Watt University, Cranfield University and British Atlantic Survey,UK)

Consultancy Projects

1. Physical Model Study for Ayodhya Barrage on River Sarayu.
2. Physical Model Study of Malviya Bridge on River Ganga in Varanasi.
3. Vetting of Gauge and Discharge Data at Bowala Nandprayag HEP site.
4. Physical Model Study for a Bridge near Bhimgoda Barrage Haridwar.
5. Model Study for Construction of Rubber Dam on River Yamuna.
6. Site Visit to ESSAR Thermal Power Plant Singrauli MP
7. Physical Model Study for a Proposed Bridge on River Yamuna Between Palwal and Malav.
8. Protection Works for Right Guide Bund of a Road Bridge Across River Ganga near Sankara Mitanpur UP
9. Physical Model Study for an Existing and a Proposed Bridge on River Chakki.
10. Physical Model Study for a Proposed Bridge on River Ganga Between Meerut and Hapur.
11. Physical Model Study for Bridge no. 2 a Over River Churki.
12. Physical Model Study of Sainjani Barrage at Rampur, Uttar Pradesh for UP Irrigation Department
13. Expert Opinion on Rejuvenation of Bhadkal Lake, Faridabad for Faridabad Smart City Limited, Faidabad
14. Numerical Studies for a Bridge on river Yamuna at Atta Gujran, Faridabad for S. P. Singla Constructions Pvt. Ltd., Panchkula, Haryana
15. Physical Model Study for a Spillway of an earthen Dam on river Orr, Madhya Pradesh for Sarathi Constructions, Gwalior
16. Physical Model Studies for a Bridge on River Hindon, Uttar Pradesh for National Highway Authority of India, New Delhi
17. Physical Model Studies for a Bridge on River Kosi, Bihar for National Highway Authority of India, New Delhi
18. Physical Model Studies for a Bridge on River Yamuna near Agra for PNC Infratech Ltd., Agra
19. Physical Model Studies for a Bridge on River Ganga near Kannauj for Afcons Infrastructure Limited, Kannauj
20. Physical Model Studies for a Bridge on River Madhya Ganga near Khasgunj for UP Public Works Department, Khasgunj
21. Physical Model Studies for a Bridge near Nizamuddin Bridge Delhi on River Yamuna near Ghaziabad for National Highway Authority of India, Ghaziabad
22. Numerical Studies for a Bridge near Nizamuddin Bridge Delhi on River Yamuna near Ghaziabad for National Highway Authority of India, Ghaziabad
23. Monitoring, Supervison and Review of Development of 6 Lane NH-24 from Nizamuddin Bridge to Delhi for National Highway Authority of India, Ghaziabad

24. Physical Model Study for Spillways of Anuppur Thermal Power Plant for Moserbaer (Madhya Pradesh) Ltd., New Delhi
25. Physical Model Studies for the Proposed Bridge on the Rivers Khabuli and Luit in Assam, Sponsored by Gherzi Eastern Limited, Kolkata
26. 'Circulation and Contaminant Transport Studies' part of Detailed Project Report on Dal Lake, Srinagar, Sponsored by Ministry of Environment and Forests, Govt. of India
27. Calibration of V- Notch, Sponsored by Ms. Shiva Industries, Agra.
28. Dewatering of Supreme Court Extension Constuction Site for Central Public Works Department, New Delhi
29. Methodology for Lowering of Water Table at IIM Kashipur
30. Design Methodology for Rainwater Harvesting Borewell for Afcons Ltd., Kannauj, UP
31. Discharge Measurement at Inlet and Outlet of Agra canal at Badarpur Thermal Power Station, Delhi, Sponsored by NTPC, Delhi
32. Srinagar Project – Infiltration Gallery Scheme for Water Supply to Srinagar Town, Alaknanda Hydro Power Company Ltd.,Sringar Garhwal, Uttarakhand
33. Ganga Expressway: Groundwater Hydrological Studies, sponsored by Jaypee ventures Pvt. Ltd. Noida
34. Installation of Transmission Line Tower Foundation in river Yamuna near Shamli, UP for Grid Corportion of India, Panipat
35. Technical Wetting of External Water Supply and Drainage Systems at Industrial Estate, Haridwar, Sponsored by State Industrial Development Corporation of Uttaranchal Ltd., Dehradun.
36. Physical Model Studies on Performance of Infiltration Gallery at Rosa Thermal Power Plant, Sponsored by Reliance Energy, Mumbai
37. Study on Subsidence of Ground around foundation well at Bhanupali – Bilaspur – Beri New Bridge, Northern railway, Chandigarh
38. Design of Tailing Dam and Recirculation System for Steel Authority of India Limited, Bhilai Plant, Bhilai
39. Design considerations for change of river course and design of canals at Raigarh Mines, Monnet Ispat and Energy Limited, Raigarh, Chattisgarh
40. Hydraulic Analysis of Flow of River Ganga near Kasganj to determine the length of the bridge for UP PWD, Kasganj
41. Estimation of Aquifer Parameters from pumping test data near Muradabad for UP Groundwater Board
42. Estimation of Aquifer Parameters from pumping test data near Agra for UP Groundwater Board
43. Site Visiti to Anuppur Thermal Power Plant for MOserbear (Madhya Pradesh) Ltd., New Delhi
44. Site Visit for Assessing the Construction of Bridge on river Kosi at Ramnagar (Nainital) for Ramnagar Municipality
45. Rehabilitation Solution for Jakhan Bridge near Dehradun for Era Constructions Ltd., New Delhi

Awards and Scholarships

1. Visiting Scholar Fellowship, Department of Civil Engineering, Hong Kong University of Science and Technology, Hong Kong, (From March 1997 to September 1998)
2. DAAD Scholarship under Disaster Mitigation and Prevention Programme for Tsunami affected countries to visit University of Applied Sciences, Dresden, Germany (Visited University of Applied Sciences, Dresden during May – July 2007)
3. **"**Jala Vigyan Puraskar**"** award for the year 2006 for the Journal paper titled " MacCormack Schme Based Numerical Solution of Advection Dispersion Equation" by Pradeep Verma, K. S. Hari Prasad and C. S. P. Ojha in ISH Journal, Vol.1, March 2006 by The Indian Society for Hydraulics
4. "Best Theoretical –Oriented Paper Award" for the year 2009 in Practice Periodical of Hazardous, Toxic and Radioactive Waste management, for the paper "Analysis of Virus Transport in Groundwater and Identification of Transport Parameters" by ASCE, May 19, 2010, Providence, Rhode Island, USA.
5. "Best Theoretical –Oriented Paper Award" for the year 2012 in Journal of Hazardous, Toxic and Radioactive Waste management, for the paper "Virus Transport through unsaturated zone: Analysis and Parameter Identification, C. S. P. Ojha, K. S. Hari Prasad, D. N. Ratha and Rao Y Surampalli, by ASCE, May 22, 2013, Cincinati, USA.
6. "Outstanding Teacher Award 2023 (UG Category)"; Indian Institute of Technology Roorkee.

Special Training/Assignment/Any Other Relevant Particulars

Conducted AICTE sponsored Short Term Course on Groundwater Modelling from 21st Feb 2005 to 25th Feb 2005 for Teachers of AICTE recognized Engineering Institutes.

Conducted Technical Training Courses for NREGA, sponsored by Govt. of Madhya Pradesh.

Courses Taught

(Undergraduate) - Channel Hydraulics
Groundwater Engineering
Systems Engineering

(Postgraduate) - Groundwater Engineering
System Analysis and Groundwater Systems
Computational Methods in Fluid Mechanics
Modelling Simulation and Computer Applications
Hydraulic Structures
Advanced Fluid Mechanics
Irrigation and Drainage