Prof. Munendra Kumar

CIVIL ENGINEEREING

Phone:09958491357
Email: munendrakumar@dtu.ac.in, mkumar66@gmail.com

Qualifications

Ph.D., IIT Delhi

Areas of Interest

Water Resources Engineering, Fluid Mechanics and Hydraulics Engineering

Prof. Munendra Kumar graduated with B. Sc. Engineering and Master's in (Structure Engineering) from Aligarh Muslim University and did Ph.D. (Fluid Mechanics and Hydraulics Engineering) from **IIT Delhi**.

Three Ph.D. student has completed their Ph. D. under my guidance, and **Eight** Ph.D. students are in progress. I have guided projects of M.Tech. Students (more than 50) and B. Tech. Students (more than 50) up to now.

I have published several papers in different journals and conferences. The details are given below:

1. Vijay Kaushika, **Munendra Kumar**, and Bandita Naikc (2022) "Modeling of Water Distribution Network Using WATERGEMS." *International Journal of Condition Monitoring and Diagnostic Engineering Management* (COMADEM).
2. Deepak Singh and **Munendra Kumar** (2022) "Energy Dissipator in Different Types of Hydraulic Structures - A Review." Article published in Structural Engineering Digest, Indian Association of Structural Engineers. Vol. 12 • Issue 3 • July-September, 2022.
3. Devi, Geeta, and **Munendra Kumar**. "Experimental study of the local scour around the two piers in the tandem arrangement using ultrasonic ranging transducers." Ocean Engineering 266 (2022): 112838 **(SCI-Expanded)**
4. Ruchika Dabas and **Munendra Kumar** (2022). " An Integrated Geopatial and Statistical Approach for Ground Water Quality Assessment of Semi-Urban Areas". Journal of Environmental Protection and Ecology, Scibulcom Ltd. Publishing, July 2022. **(SCI-Expanded)**
5. Deepak Singh and **Munendra Kumar** (2022) "Computation of energy dissipation across the type-A piano key weir by using gene expression programming technique." Water supply, IWA Publishing. https://doi.org/10.2166/ws.2022.255 **(SCI-Expanded)**
6. Devi, Geeta, and **Munendra Kumar**. "Estimation of local scour depth around twin piers using gene expression programming (local scour around twin piers)." Water Supply 22, no. 6 (2022): 5915-5932. **(SCI-Expanded)**
7. Devi, Geeta, and **Munendra Kumar**. "Characteristics assessment of local scour encircling twin bridge piers positioned side by side (SbS)." Sādhanā 47, no. 3 (2022): 1-13. **(SCI-Expanded)**
8. Deepak Singh and **Munendra Kumar** (2022) "Study on Aeration performances of different types of Piano Key Weir." Water supply, IWA Publishing. https://doi.org/10.2166/ws.2022.131 **(SCI-Expanded)**
9. Devi, Geeta, and **Munendra Kumar** (2022). "Last century evolution in local scour measuring techniques." In Current Directions in Water Scarcity Research, vol. 7, pp. 513-529. Elsevier, 2022.
10. Deepak Singh and **Munendra Kumar** (2022) "Effects of Channel Bed Slope on Energy Dissipation of Different Types of Piano Key Weir.", World Academy of Science, Engineering and Technology International Journal of Civil and Architectural Engineering Vol:16, No:5, 2022 **(Open Citation Indexed)**
11. Deepak Singh and **Munendra Kumar** (2022) "Gene expression programming for computing energy dissipation over type-B piano key weir." Renewable Energy Focus. https://doi.org/10.1016/j.ref.2022.03.005 **(ESCI- Impact Factor-4.031)**
12. Deepak Singh, **and Munendra Kumar** (2022). "Energy dissipation of flow over the type-B Piano Key Weir." Flow Measurement and Instrumentation, Elsevier Ltd, 83(November 2021), 102109. https://doi.org/10.1016/j.flowmeasinst.2021.102109 **(SCIE)**
13. Deepak Singh, **and Munendra Kumar** (2021). "Hydraulic Design and Analysis of Piano Key Weirs : A Review." Arabian Journal for Science and Engineering, Springer Berlin Heidelberg. **(SCIE),** https://doi.org/10.1007/s13369-021-06370-4
14. Saurabh Sah**, Munendra Kumar** and Deepak Singh' (2022) "Study of Flow Characteristic of Trapezoidal Labyrinth Weir." In: Jha R., Singh V.P., Singh V., Roy L.B., Thendiyath R. (eds) River Hydraulics. Water Science and Technology Library, vol 110. Springer, Cham. https://doi.org/10.1007/978-3-030-81768-8_20 **(Scopus- Indexed)**

15. Deepak Singh, Arkaja, **Munendra Kumar**, and Saurabh Sah (2022). "Design of Branched Pipe Networks Using Reliability and Total Annual Cost." In: Jha R., Singh V.P., Singh V., Roy L.B., Thendiyath R. (eds) Hydrological Modeling. Water Science and Technology Library, vol 109. Springer, Cham. https://doi.org/10.1007/978-3-030-81358-1_14 **(Scopus- Indexed)**

16. Devi, Geeta, and **Munendra Kumar** (2022). "Countermeasures Against Local Scouring at Circular Bridge Piers Using Collar and Combination of Slot and Collar." In River Hydraulics, pp. 289-296. Springer, Cham, 2022.

17. Deepak Singh and **Munendra Kumar: "**Aeration performances of Piano Key Weir: A Review." Hydro-2020, 20th International Conference, organized by NIT, Rourkela Odisha (held 26-28 March 2021) ((**Scopus- Indexed)- Through Conference)**

18. Stuti Mishra, **Munendra Kumar** and Vijay Kaushik **"**Numerical modeling of Flow characteristics over sharp-crested triangular and W-shaped weirs for establishing downstream scour behavior." International Journal of COMADEM, UK, 2021(**Scopus- Indexed)**

19. Sushant Kumar, A.K Sahu, and **Munendra Kumar:** "Heat and water flux modeling in an earth dam." Water Science & Technology, https://doi.org/10.2166/wst.2021.241 **(SCIE-Indexed)**

20. Sushant Kumar, A.K Sahu, and **Munendra Kumar:** "Modeling the effect of central impervious core and downstream filter geometry on seepage through earth dams" Ain Shams Engineering Journal, https://doi.org/10.1016/j.asej.2021.05.024 **(SCIE-Indexed)**

21. Vijay Kaushik, Deepak Singh, **Munendra Kumar:** Effects of Fibers on Compressive Strength of Concrete. Materials Today: Proceedings: 2021, (**Scopus- Indexed)**

22. Siddhant Panigrahi, and **Munendra Kumar, "**Prediction of Irrigation Water Quality Index in Raigarh through ANN modeling." International Research Journal of Engineering and Technology, 2021.

23. Sushant Kumar, A.K Sahu, and **Munendra Kumar:** Simulation of solute mass flux in an earth dam. 3rd International Conference on Advances in Engineering & Technology, 2021.

24. Sushant Kumar, A.K Sahu, and **Munendra Kumar:** "Effect of seepage through an earth dam on its water quality: A review" 2nd ASCE India conference, CRSIDE-2020,

25. Jaganniwas and **Munendra Kumar:** "Selection of Return Period for Urban Catchment," Journal of Sustainable Water in Built Environment, **ASCE. July 14, 2020 (Through Conference) (Paper ID: AIC2020-29-87)**

26. Ruchika Dabas and **Munendra Kumar:** Analysis of Parameters for Storm Water Management Model (SWMM) by Using GIS, Book chapter in Lecture Notes in Civil Engineering, Vol. 87, Laxmi Kant Madan Manohar Gupta et al: Advances in Civil Engineering and Infrastructural Development, *Springer Nature's*, pp *978-981-15-6462-8, 482188_1_En (27), July-2020* (**Scopus- Indexed)**

27. Ruchika Dabas and **Munendra Kumar:** Applications of Low Impact Development for Managing the Storm Water Surface Runoff in Urban Areas, Book chapter in Lecture Notes in Civil Engineering, Vol. 87, Laxmi Kant Madan Manohar Gupta et al: Advances in Civil Engineering and Infrastructural Development, Springer Nature's 974-977-15-6462-8, 482188_1_En (26), July-2020 (**Scopus- Indexed)**

28. Vijay Kaushik and **Munendra Kumar:** Analysis of the Sediment Laden Flows by Measuring Weirs, International Journal of Advanced Science and Technology, Vol. 29, no. 8s, pp. 3040-3048, Apr. 2020. (**Scopus- Indexed)**

29. Geeta Devi and **Munendra Kumar:** Study of the impact of inclination on scouring around the bridge pier. International Journal of Advanced in Management, Technology and Engineering Science. Volume 8, Issue III, March/2018 ISSN NO:2249-7455

30. Saurabh Sah and Munendra Kumar: "Optimum Pressure and Location of supplied air for efficient aeration of water using Ansys." 1st International Conference on New Frontiers in Engineering, Science & Technology, New Delhi, India, January 8-12,2018. ISBN:978-93-86238-41-2

31. Geeta Devi and **Munendra Kumar:** Review paper of different scouring monitoring techniques and instruments. 1st International Conference on New Frontiers in Engineering, Science & Technology, New Delhi, India, January 8-12,2018. ISBN: 978-93-86238-41-2

32. Saurabh Sah and **Munendra Kumar:** Flow measurement using different types of hydraulic weir- A review. 1st International Conference on New Frontiers in Engineering, Science & Technology, New Delhi, India, January 8-12,2018. ISBN: 978-93-86238-41-2

33. Ashish Malik and **Munendra Kumar:** Comparison of scour around different shapes of groynes in open channel. International Journal of recent Trends in Engineering and Research. Volume 1, Issue 03 March-2018 ISSN(Online): 2455-1457

34. Saurabh Sah and **Munendra Kumar:** Flow Measurement using Labyrinths Weir: A Review 3rd National Conference on Recent Advances in Sciences & Technology. -2018, PP:253-255. ISBN:978-93-86724-77-9

35. AK Shrivastava, **Munendra Kumar:** Compatibility issues of cement with water reducing admixture in concrete, Perspectives in Science, Elsevier (April 2016) **8**, 290-292, ISSN No. :2213-0209

36. S. Anbu Kumar**,Munendra Kumar,** 'Stability of Visco-elastic material through a pipe flow with axi-symmetric disturbances, paper published in the International Conference on Recent Trends in Engineering and Material Sciences (ICEMS-2016) 17–19 March 2016 | Jaipur, India.

37. T. Vijaya KumarP.K. SenS.V. Veeravalli and of Weak Confined Wake Behind a Cylinder in Fully Developed Turbulent Channel Flow , Procedia Engineering (Elsevier) Volume 105, 2015, Pages 359-367, ISSN No. : 18777058.

38. S. Anbu Kumar**,Munendra Kumar**, Hydrodynamic Stability of Complaint Pipe for Normal Compliance paper published in the Open Journal of Ocean and Coastal Sciences (OCS) PP 48-60, Volume 2, Number 1 2015,ISSN(Print): 2377-0007 ISSN(Online):2377-0015

39. S. Anbu Kumar**,Munendra Kumar**, Amit Kumar Shrivastava and P.B. Sharma Hydrodynamic Stability of Fluid Flow through A Flexible Tube by Energy Method for Non-Axisymmetric Disturbances N = 4 Modes, International Journal of Earth Sciences and Engineering, Vol. 06, No.01 February 2013, PP 128-135.,ISSN No.: 0974-5904

40. S. Anbu Kumar**,Munendra Kumar** and Vivek Kumar Singh, Effect of Temperature on Strength & Stress-Strain Relationship for the Higher, Grade of Concrete. , International Journal of Earth Sciences and Engineering, Vol. 05, No.02 April 2012, PP 322-326.,ISSN No.: 0974-5904

41. **Munendra Kumar**, Amit Kumar Shrivastava and S. Anbu Kumar Stability of fluid flow through a compliant pipe with interface interventions by Energy Balance method for higher order of non-axisymmetric disturbances (n=3 modes) Journal of ship Technology Vol.7, No.1, January 2011, pp. 57-66. ISSN :0973:1423

42. P.K.Sen,and, **Munendra Kumar**," Stability of fluid flow through a compliant pipe with interface interventions, Journal of ship Technology Vol 6, No.1, January 2010, pp 01-18.ISSN :0973:1423

43. **Munendra Kumar**,P.K.Sen and A.K.Raghav" Hydrodynamic Stability of fluid flow through a flexible pipe with outer rigid shroud by the energy method :Part 2,Axisymmetric disturbances, Journal of ship Technology Vol 4, No.1, January 2008, pp61-70.ISSN :0973:1423

44. **Munendra Kumar**,P.K.Sen and A.K.Raghav" Hydrodynamic Stability of fluid flow through a flexible pipe with outer rigid shroud by the energy method :Part 1, None-Axisymmetric disturbances, Journal of ship Technology Vol 3, No.2, July 2007, pp72-84. ISSN :0973:1423

45. P.K.Sen, and **Munendra Kumar**, and A.K.Raghav" Stability of fluid flow through a compliant pipe: Part 2, None-Axisymmetric disturbances, Journal of ship Technology Vol 3, No.1, January 2007, pp.45-56. ISSN :0973:1423

46. P.K.Sen, and **Munendra Kumar**, and A.K.Raghav" Stability of fluid flow through a compliant pipe: Part 1,Axisymmetric disturbances, Journal of ship Technology Vol 2, No.2, July 2006, pp. 56-67. ISSN :0973:1423

Membership:

1. Member, Indian Geotechnical Society of Delhi chapter

2. Member, Indian Society for Hydraulics

List of Consultancy on Going:

S. No.	Name of the Projects	Approved date	Amount (inclusive of GST)	Agency	Role (P.I./Co. PI/ Team Member)
1.	TPQA towards Construction of 325 Two BHK, 170 Three BHK & 194 EWS Houses (Design & Built model) earmarked in Pkt-7 at sector-A-1 to A-4, Narela vide letter no. 54(28)/RPD-5/DDA/186	29/08/2019	93,05,000.00	DDA DELHI`	Member
2.	Construction of 821 multi storied housed (600 two BHK and 221 EWS housed) in pocket-E at lok Nayak Puram (Bakkarwala)	29-06-2019	84,48,800.00	DDA DELHI	Member
3.	C/O 625 Two BHK, 350 three BHK and 376 EWS houses (design and build Model), earmarked in pocket-3, sector A1 to A4, Narela, New Delhi	12-6-19	1,65,08,984.00	DDA DELHI	Member
4.	TPQA Construction of 520 Two BHK, 250 Three BHK & 294 EWS (DESIGN & Built model) earmarked in Pkt-14, Sector-A-1 to A-4, Narela	14-6-19	99,75,638.00	DDA, DELHI	Member
5.	C/O 750 Two BHK, 325 three BHK and 412 EWS houses (design and build Model), earmarked in pocket-13, sector A1 to A4, Narela, New Delhi	13-9-19	2,38,74,918.00	DDA, DELHI	Member
6	C/O 420 Two BHK, 225 three BHK and 250 EWS houses (design and build Model), earmarked in pocket-6, sector A1 to A4, Narela, New Delhi	20-8-19	2,29,26,928.00	DDA, DELHI	Member

7	Construction of 600 two BHK, 250 three BHK and 320 EWS, houses (Design and Build Model) Earmarked in Pocket-9, at Sector A1 to A4, Narela	13-8-19	1,46,03,863.00	DDA, DELHI	Member
8	(a) construction of Four lane RCC bridge at U/S of RD 2010 m (existing Dhoosiras bridge) Dhoosiraj on NG. Drain. (b) Construction of Four lane RCC Bridge at Bridge at U/S of RD 14468 m (existing Badusarai Bridge), on Najafgarh Drain	18-10-19	18,20,076.00	I & FC	Member
9	TPQA -Expansion and remodeling work at Acharya Shri Bhikshu Govt. Hospital at Moti Nagar	28-01-2020	20,91,947.00	PWD, Delhi	Member