Dr. Binit Kumar
Department of Civil Engineering
MNNIT Allahabad, Paryagraj-211004 (U.P), India

PUBLICATIONS

International Journal Papers [Published]

1. **Kumar, B.,** Kadia, S., and Ahmad, Z. (2019). Evaluation of discharge equations of the Piano Key Weirs. Flow Measurement and Instrumentation. Elsevier. 68(2019). 101577. doi:10.1016/J.FLOWMEASINST.2019.101577

2. **Kumar, B.,** Kadia, S., and Ahmad, Z. (2019). Experimental study of flow field and movement of sediment over a ramp. Journal of Civil Engineering and Construction,8(2), 79–86. https://doi.org/10.32732/jcec.2019.8.2.79

3. **Kumar, B.,** Kadia, S., and Ahmad, Z. (2021). Study on mechanics of sediment movement over Type-A Piano key weirs. Journal of Irrigation and Drainage Engineering. ASCE. 147(6). https://doi.org/10.1061/(ASCE)IR.1943- 4774.0001561

4. **Kumar, B.,** Kadia, S., and Ahmad, Z. (2021). Discharge characteristics of PK weirs with and without upstream siltation. International Journal of civil engineering. Springer. 19. 1043-1054. https://doi.org/10.1007/s40999-021-00607-x

5. **Kumar, B**. and Ahmad, Z. (2021). Scour Downstream of a Piano Key Weir with and without a Solid Apron. Journal of Irrigation and Drainage Engineering (ASCE).148(1). 10.1061/(ASCE)IR.1943-4774.0001647

6. **Kumar, B.,** Kadia, S., and Ahmad, Z. (2022). Sediment Movement over Triangular Weir with an Upstream Ramp Using High Speed Camera. Journal of Visualization (Springer).25, pp 1017-1033. https://doi.org/10.1007/s12650-022-00831-0

7. Kadia, S., Pummer, E., **Kumar, B.,** Ruther, N. and Ahmad, Z. (2023). An Empirical Equation for the Coefficient of Discharge of Free-Flowing Type- Piano Key Weirs. Journal of Irrigation and Drainage Engineering. (ASCE).149. http://dx.doi.org/10.1061/JIDEDH.IRENG-9886

8. Patra, S., **Kumar, B.**, and Pandey, M. (2023). Experimental Study on the Turbulence Characteristics in a Vegetated Channel. Flow Measurement and Instrumentation Volume 94,102464, ISSN0955-5986 (Elsevier). https://doi.org/10.1016/j.flowmeasinst.2023.102464

9. **Kumar, B.**, Patra, S., and Pandey, M. (2023). Experimental Investigation on Flow Configuration in Flexible and Rigid Vegetated Streams. Water Resources Management: An International Journal, Published for the European Water Resources Association (EWRA), Springer; European Water Resources Association (EWRA), vol. 37(15), pages 6005-6019, December. DOI: 10.1007/s11269-023-03640-8.

10. **Kumar, B.**, Pandey, M., and Ahmad, Z. (2024). Flow Field and Sediment Passing Capacity of Type-A Piano Key Weirs, International Journal of Sediment Research (Elsevier). https://doi.org/10.1016/j.ijsrc.2024.04.005

Patent

1. A Sediment Flusher, Pandey, M., **Kumar, B.**, Afzal, S., and Dixit, P.K. (2022). Design No.: 371917-001; Date of Filing: 02-10-2022; Awarding Organization-Intellectual Property India (Government of India). Date of Issue: 20/02/2024

Book Chapters

1. Kadia, S., **Kumar, B.,** and Ahmad, Z. (2020). Discharge Characteristics of Triangular Weir with Upstream Ramp and its CFD Modeling using Ansys CFX Module Published in Springer series: "Geo Planet: Earth and Planetary Sciences". Recent trends in Environmental hydraulics, chapter -7, pp-77-90. ISBN 978-3-030-37105-0

2. **Kumar, B.** and Singh, V. (2021). Study of scour near pier of Gandhi setu in Ganga River, Proceedings of Springer Nature. Chapter-7, River Hydraulics, ISBN 978-3-030-81767-1.doi 10.1007/978-3-030-81768-8.

3. **Kumar, B.,** Patra, S., Pandey, M., and Dikshit, P., K. (2022). A review on hydrodynamics and of vegetated streams. Proceedings of Springer Nature. River Dynamics and Flood Hazards: Studies on Risk and Mitigation. ISBN 978-981-19-7099-3.

4. **Kumar, B.,** Hasan, E., Pandey, M. (2022). A review on parametric studies of piano key weirs. Proceedings of Springer Nature. River Dynamics and Flood Hazards: Studies on Risk and Mitigation. ISBN 978-981-19-7099-3.

Conferences [Presented]

1. **Kumar, B.** and Singh, V. (2017).Study of scour near pier of Gandhi setu in Ganga River, Proceedings of Third world large River International Conference (IAHR); 21-23 April; New Delhi, India.

2. **Kumar, B.** and Singh, V. (2018).Study of scour depth near pier of Gandhi setu in Ganga River, Proceedings of HYDRO 2018 International Conference; 17-21 December; Patna, India.

3. **Kumar, B.**, Kadia, S. and Ahmad, Z. (2018).Experimental study on flow field and movement of sediment over a ramp, Hong Kong, CREE- 2018, December 29-30

4. Kadia, S., **Kumar, B.**, and Ahmad, Z. (2019). Discharge Characteristics of Triangular Weir with Upstream Ramp and its CFD Modeling using Ansys CFX Module. In Proceedings of the XXXVIII International School of Hydraulics, 21-24 May 2019, Lack, Poland, which is published in Springer series: "Geo Planet: Earth and Planetary Sciences".

5. Kadia, S., **Kumar, B**., and Ahmad, Z. (2019). Piano Key Weir as a Dam Safety Technique and its CFD Modeling in Ansys CFX Module. In Compendium of Technical Papers for the International Dam Safety Conference - 2019, Bhubaneswar, India (pp. 91–99). New Delhi: Central Water Commission.

6. **Kumar, B.**, Kadia, S. and Ahmad, Z. (2019),Experimental study on flow field in the vicinity of PK weirs, San Francisco (California) , AGU- FALL MEETING 2019, December 07- 12.

7. **Kumar, B.** and Ahmad, Z. (2020).Experimental study on the scour downstream of PK weirs. ISHS 2020, CHILE, University of Queensland, Brisbane.

8. Kadia, S., **Kumar, B**., Pummer, E., Ruther N., and Ahmad, Z. (2021). Experimental and CFD Simulation Studies on the Flow Approaching a Type- A PKW. Vienna, Austria, EGU 2021, April 25-30.

9. **Kumar, B**. and Ahmad, Z. (2022). Experimental study on the three dimensional velocity of PK weirs. Proceedings of the 9th IAHR International Symposium on Hydraulic Structures – 9th ISHS, 24-27 October 2022, IIT Roorkee, Roorkee, India. Palermo, Ahmad, Crookston, and Erpicum Editors. Utah State University, Logan, Utah, USA, 10 pages (DOI: 10.26077/f13f-9ef3) (ISBN 978-1-958416-07-5).

10. Sinha, P., K., **Kumar, B.** and Ahmad, Z. (2022). Hydraulic performance of piano key with curvilinear key. Proceedings of the 9th IAHR International Symposium on Hydraulic Structures – 9th ISHS, 24-27 October 2022,

IIT Roorkee, Roorkee, India. Palermo, Ahmad, Crookston and Erpicum Editors. Utah State University, Logan, Utah, USA, 10 pages (DOI: 10.26077/f13f-9ef3) (ISBN 978-1-958416-07-5).

11. **Kumar, B.** and Jothiprakash, V. (2024). Utilization of ANN Model for the Evaluation of Discharge Coefficient of a Piano Key Weir. 10th IAHR International Symposium on Hydraulic Structures – 10th ISHS, 17-19 June 2024, Zurich, Switzerland (https://doi.org/10.3929/ethz-b-000675921).