



Abdul A. Khan, Ph.D.
Associate Professor of Civil Engineering

Areas of Interest:

- Computational Hydrodynamics
- Environmental Fluid Mechanics
- Sediment Transport
- Hydraulics and Hydrology

Education:

- B.S.C.E., 1986, University of Engineering and Technology
- M.Sc., Civil Engineering, 1989, University of Alberta
- Ph.D., Civil Engineering, 1995, University of Alberta

- **Regularly Teaches:**

- CE 342 Applied Hydraulics and Hydrology
- CE 869 Environmental Hydraulics and Fluid Mechanics
- CE 875 Numerical Models in Hydraulics

Professional Society Membership:

- American Society of Civil Engineers
- International Association of Hydraulic Engineering and Research

Sample Publications:

Shatanawi, K. M., Aziz, N.M. and Khan, A.A., "Frequency of Discharge Causing Abutment Scour in South Carolina", ASCE Journal of Hydraulic Engineering, Vol. 134, No. 10, pp. 1507-1512. (2008)

Powell, D.N., Khan, A.A., and Aziz, N.M., "Impact of New Rainfall Patterns on Detention Pond Design", ASCE Journal of Irrigation and Drainage Engineering, Vol. 134, No. 2. (2008)

Bryant, D.B., Khan, A.A., and Aziz, N.M., "Flow Field Upstream of an Orifice", ASCE Journal of Hydraulic Engineering, Vol. 134, No. 1, pp. 98-104. (2008)

Aziz, T. N., Raiford, J. P., and Khan, A. A., "Numerical Simulation of Turbulent Jets", Engineering Applications of Computational Fluid Mechanics, Vol. 2, No. 2, 234-243 (2008).

Raiford, J. P., Aziz, N. M., Khan, A. A., and Powell, D. N., "Rainfall Depth-Duration-Frequency Relationships for South Carolina, North Carolina, and Georgia," *American Journal of Environmental Sciences*, Science Publications, Vol. 3, No. 2, 78-84 (2007).

Raiford, J. P. and Khan, A. A., "Numerical Simulation of Flow Downstream of Lock and Dam", *Journal of River Basin Management*, IAHR, Vol. 5, No. 4, 321-327 (2007).
Powell, D., Khan, A., Aziz, N., and Raiford, J., "Dimensionless Rainfall Patterns for South Carolina", *Journal of Hydrologic Engineering*, ASCE, Vol. 12, No. 1, pp. 130-133, (2007).

Khan, A. A., "Discussion of Time Variation of Scour at Abutments," *Journal of Hydraulic Engineering*, ASCE, Vol. 132, No. 5, 542-543 (2006).

Gregg, W. B., Werth, D. E., and Khan, A. A., "Experimental Study of Wall Curvature and Bypass Flow Effects on Orifice Discharge Coefficients," *Experiments in Fluids*, Springer, Vol. 39, No. 3, 483-489, (2005).

Ying, X., Khan, A. A., and Wang, S. S. Y., "An Upwind Conservative Scheme for Saint Venant Equations," *Journal of Hydraulic Engineering*, ASCE, Vol. 130, No. 4, 977-987 (2004).

Khan, A. A., and Wang, S. S.-Y., "Simulation of Flood Event in a Reach of the Nile River Using CCHE2D Model," *Archives of Hydro-Engineering and Environmental Mechanics*, Vol. 50, No. 4, 329-341 (2003).

Matsumoto J., Khan, A. A., Wang, S. S. Y., Kawahara, M. "Shallow Water Flow Analysis with Moving Boundary Technique Using Least-squares Bubble Function," *International Journal of Computational Fluid Dynamics*, Vol. 16, No. 2, 129-134. (2002)

Khan, A. A., Barkdoll, B. "Two-Dimensional Depth-Averaged Models for Flow Simulation in River Bends", *International Journal of Computational Engineering Science*, Vol. 2, No. 3, 453-467. (2001)

Khan, A. A. "Modeling Flow Over an Initially Dry Bed", *Journal of Hydraulic Research*, IAHR, Vol. 38, No. 5, 383-388. (2000)

Khan, A. A., Steffler, P. M., and Gerard, R., "Dam-Break Surges with Floating Debris", *Journal of Hydraulic Engineering*, ASCE, Vol. 126, No. 5, 375-379 (2000).

Khan, A. A., "Modelling Rectangular Overfalls Using Boussinesq Equations," *Water, Maritime and Energy*, Proceedings of the Institution of Civil Engineers, Vol. 136, No. 2, 77-80 (1999).

Khan, A. A., and Steffler, P. M., "Physically Based Hydraulic Jump Model for Depth-Averaged Computations", *Journal of Hydraulic Engineering*, ASCE, Vol. 122, No. 10, 540-548 (1996).

Khan, A. A., and Steffler, P. M., "Modeling Overfalls Using Vertically Averaged and Moment Equations", Journal of Hydraulic Engineering, ASCE, Vol. 122, No. 7, 397-402 (1996).

Khan, A. A., and Steffler, P. M., "Vertically Averaged and Moment Equations Model for Flow Over Curved Beds", Journal of Hydraulic Engineering, ASCE, Vol. 122, No. 1, 3-9 (1996).

Khan, A. A., and Steffler, P. M., "Discussion of Potential-Flow Solution to 2D Transition from Mild to Steep Slope," Journal of Hydraulic Engineering, ASCE, Vol. 121, No. 9, 680-682 (1995).

Rajaratnam, N., and Khan, A. A., "Intersecting Circular Turbulent Jets," Journal of Hydraulic Research, IAHR, Vol. 30, No. 3, 373-387 (1992).