

Mahmood Shafai Bejestan*

Professor, School of Water Science Engineering.
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Personal Information

First name: Mahmood

Family:Shafai-Bejestan¹

Date of birth: 28 November 1953

Nationality: Iranian

Maried

Education

- ✓Diploma, Mathematics, Fiozat High School, Mashhad, Iran, 1975
- ✓B.Sc. Irrigation Engineering Jundi-Shapoor University, Ahvaz, IRAN 1977
- ✓M.Sc. Civil Engineering Tehran Polytechnique, Tehran, IRAN 1979
- ✓Ph.D. Civil Engineering Colorado State University, Fort Collins, USA 1989

Professions

- ✓Instructor, Shahid-Chamran University, Full-Time, 1979-1985
- ✓Assist. Professor, Shahid-Chamran University Full-Time, 1989-1994
- ✓Associate Professor, Shahid-Chamran University Full-Time, 1994-1999
- ✓Professor, Shahid-Chamran University, Full-Time, 1999-Present

Professional Interests

River and Reservoir Sedimentation ,Hydraulic Structures, Mathematical and Physical Modeling, River Training, Flood Management(Structural and Non-structural).

Member of Scientific Societies

- ✓American Society of Civil Engineering (ASCE), Since 1987
- ✓International Association of Hydraulic Research (IAHR), Since 1990
- ✓Iranian Hydraulic Association (IHA), Since 1995
- ✓Asian Association of Agricultural Engineering (AAAE), Since 1999
- ✓Iranain Association of River Engineering (Since 2010)

Awards

- ✓Distinguished Researcher in 1995,1999,2000, 2003, 2005 , 2007, 2008, 2009, 2010,2014, 2016, 2017, 2016 Awarded by Vice – Chancellor for Research of SCU

¹May also be written as: Shafae Bejestan, Shafai Bejestan, Shafai Bajestan or Shafaei Bajestan

- ✓Distinguished Hydraulician of the year in 2003. Awarded by Iranian Hydraulic Association,
- ✓Distinguished Iranian Professor in 2003 and 2010. Awarded by the Iranian Ministry of Science, Research and Technology.
- ✓Distinguish Engineer on the occasion of independence of dam construction, awarded by Deputy of Water and Waste water, Iranian Ministry of Power, 2011.
- ✓Distinguish Researcher in the province of Khuzestan in 2011 & 2018. Awarded by Governor of Khuzestan province.
- ✓Distingiush Water Engineer in 2011. Awarded by the Khuzestan Water Engineering Association.
- ✓Distinguish Researcher in 2004 & 2011. Awarded by the Vice-Chancellor for research, Iranian Ministry of Science, Research and Technology

Journal Activities

- ✓Editorial in Cheif of the Iranian Journal of Hydraulics, Iranian Hydraulic association.
- ✓Editorial board of the following Iranian Journals:
 - ★Iranian Water Research, published by Shahre Kord University, Iran
 - ★Journal of Iranian Water Resource Engineering, Islamic Azad University, Marv-Dasht Brach, Iran
 - ★Journal of Irrigation and Drainage structures Engineering Research, Ministry of Agriculture, Tehran, Iran.
 - ★Journal of Iranian Water & Irrigation management, Tehran university, Tehran, Iran
- ✓Reviewer of the Iranian and International journals

Conference Activities

- ✓An active member of organized committee of the *Iranian River Engineering Conferences*, held in Shahid- Chamran University of Ahvaz in 1991, 1993, 1995, 1997 ,1999, 2000 , 2012 \$ 2018.
- ✓Chairman of Sceintific Committee and member of orgnized committe of the *First Regional Water Balance Conference* held in Ahwaz in 1998.
- ✓Chairman of *Sixth Iranian River Engineering Conference (6IREC) & First International River Engineering Conference* held in Shahid-Chamran University of Ahvaz, Iran, January 2003 .
- ✓Member of Scientific committee of 1st, 2nd , 3rd , 4th , 5th and 6th *Iranian Hydraulic conference* held in 1979, 1999, 2001 , 2003 , 2005 and 2007In Iran.
- ✓Member of Scientific committee of *1st International conference on Dams and River Structures*, Tehran, 2004.
- ✓Chairman of Scientific Committee and member of organized committee of the *1st Iranian Irrigation and Drainage Network Management*, Ahwaz, Iran held in 2006.
- ✓Scientific Chairman of the *8th International River Engineering Conference*, Shahid Chamran University, Ahwaz, 2010.

- ✓Member of scientific committee of the *Inter. Confrence on drought Management Strategies in Arid and Semi-Arid regions*, Moscut, Oman, Dec. 2011.

Books Published

- 1-"**Soil Mechanics, Principle of Theory & Practice**", Mr. Ebne-Jala as co-author, published by Shahid-Chamran press office (In Persian), 1st published in1995 and has been reprinted 12 times since then.
- 2-"**Hydraulics of Sediments**", published by Shahid-Chamran Press office (In Persian), 1st published in1997and has been reprinted 7 times since then.
- 3- "**Physical model in Hydraulic**", Shahid – Chamran University press office (In Persian), 2003.
- 5- "**Basic theory and application of hydraulic sediment transport**", Shahid – Chamran University press office (In Persian), 2009 and has been reprinted 5 times.
- 6- "**River management with submerged vane**"-Iranian Experinces, Shahid Chamran university press(In Persian), 2012.
- 7-"**Physical-hydraulic Simulation and their applications**", (In Persian), Shahid Chamran university press, 2014.

Journal Papers

Over the past years 145 papers has been published in Iranian Research and Scientific journals. Papers in International journals are listed below:

- 1.**Shafai-Bajestan , M. ,** Albertson ,Maurice, L. Discussion on Rip Rap Design . Journal of Hydraulic Engineering ASCE_ 1991.
- 2.**Shafai-Bajestan , M.** Critical Stability Number in Rock Lined Channels . Iran Agriculture Research , Shiraz Univ.. 1991
- 3.**Shafai-Bajestan , M.** and Albertson ,Maurice, L. Discussion on Sour Downstream of Grade-Control Structures . *Journal of Hydraulic Engineering* , ASCE, 1992.
- 4.**Shafai-Bajestan , M.** and Albertson ,Maurice, L. Riprap Criteria Below Pipe Outlet . *Journal of Hydraulic Engineering American Society of Civil Engineers* . 1993.(Q1)
- 5.Izadjoo, Farhad and **Shafai- Bejestan, M.**(2007). " Corrugated bed hydraulic jump stilling basin, *Journal of Applied Sciences*, Asian Journal, vol.7 no. 8, pp: 1164-1169.
- 6.Fathhimoghaddam, M., Torabipoudeh, H., Ghomeshi, M. and **M. Shafai Bejestan** (2008). "The density current head velocity in expansion reach", *Lakes & Reservoirs: Research and Management*, vol.13, no.1, pp:63-68.(Q1)
- 7.Fathi-Moghadam, H. Torabi, M. Ghomeshi, and **M. Shafai-Bejestan** (2008). "The density current Read velocity in expansion reaches". *Lakes and Reservoirs: Research and Management*, 13, PP: 63-68.(Q1)
- 8.Shirangi, E., R. Kerachian, and **M. Shafai-Bejestan** (2008). "A Simplified model for reservoir operation considering the water quality issues: Application of the Young Conflict resolution theory." *Environmental Monitoring and Assessment*, Springer, Vol. 46, No 1-3, PP: 77-89.
- 9.Torabi Poudeh, M., Fathi moghadam, M. Ghomeshi and **M. Shafai-Bejestan** (2008). "Motion of a density current head in a diverging channel". *Journal of Environ. Sciences & Engineers* Vol. 50, No. 1, PP: 63-68.
- 10.Samadi-Broojeni, H., Fathhimoghaddam, M. and **Shafai bejestan, M.** (2009). Investigation on bulk density of deposited sediments in Dez reservoir, *Trends in Applied Sciences Research*, Vol.4, No.3, pp.148-157.

11. **Shafai Bejestan, M.** and Neisi, K. (2009), A New Roughened Bed Hydraulic Jump Stilling Basin, *Asian Journal of Applied Sciences*, vol.2, no.5, pp.436-445.
12. Masjedi Alireza, **M. Shafai Bejestan**, and Abdolkarim Esfandi(2010). “Experimental study on local scour around single oblong pier fitted with a collar in a 180 degree flume bend, *International Journal of Sediment Research* 25 (2010) 304312.
13. Jarrahzade F. and **M. Shafai Bejestan** (2011).”Comparison of maximum scour depth in Bank line and nose of submerged weirs in a sharp bend” *Scientific Research and Essays* Vol. 6(5), pp. 1071-1076.
14. **Shafai-Bejestan M.**, M. Nasr-e-Esfahani and K. Hekmat(2012). “Hydraulic Flushing in Box Cross Section Conduits” *Journal of Environmental Engineering and Technology* vol.1(1), pp.4-8.
15. Davoodi, Leila and **M. Shafai Bejestan** (2012). Control of sediment entry to intake on a trapezoidal channel by submerged vane, *Journal of Ecology, Environment and Conservation*, 18(1):165-169
16. Nohani, Ebrahim, **Shafai Bejestan M.** (2012). “Experimental Study on the Stability of Riprap at Bridge Piers in a 180 Degree Flume Bend”. Contemporary Engineering sciences, Vol.5, No. 8, P.381-.093
17. Mohammadi S., **Shafai Bejestan, M.** and R. Ghobadian (2013). Local scour at curved edge of open-channel junctions. Caspian journal of applied science research, No.3, 33-.04
18. Karami-Moghaddam, **M. Shafai-Bejestan, M.**, Sedghi, H. and Seyedian M.(2013). “An Experimental and Numerical Study of Flow Patterns at a 30 degree water Intake from Trapezoidal and Rectangular Channels”. *Iranian Journal of Science and Technology Transactions of Civil Engineering* , Vol. C1, p. 85-97.
19. Razavi-Nabavi S.M. and **Shafai-Bejestan M.** (2013). “Effects of upward seepage on depth of scour hole downstream of free falling jets under constant tailwater depth”, *Journal of Water Sciences Research, Islamic Azad university southern Tehran*, Vol. 5, No.1, p. 31-39 (ISC)
20. Neisi, K and **Shafai-Bejestan M.**(2013). Characteristics of S-jump on Roughened Bed Stilling Basin”, *Journal of Water Sciences Research, Islamic Azad university southern Tehran*, Vol. 5, No.2, p. 25-34. (ISC).
21. **Shafai Bejestan, M.** and Shokrian, M. (2015). Mathematical expression for the B-jump Sequent Depth Ratio on Sloping Bed.” *Journal of Civil Engineering, Korean Society of Civil Engineering*, Springer, vol.19, Issue 3, pp: 790-795.
22. Seyedian S. M., **Shafai Bajestan, M.** and M. Farasati (2014). “Study on the effect of bank slope on the flow patterns at river intakes”, *Journal of Hydrodynamics*, Published by Elsevier , 26(3):482-492..
23. **Shafai-Bejestan, M.**, S. M. Razavi Nabavi and S. Dey (2016). Scour downstream of grade control structures under the influence of upward seepage” *Acta Geophysics, Elsevier*, Vol. 64, No.3, pp.694-710.
24. **Shafai Bejestan, M.**, K. Khademi and H.KhozeimeNejad (2015). Submerged vane attached to abutment as scour countermeasure”, *Ain Shams Engineering Journal, Elsevier publisher*, Vol.6, p.775- 783.
25. Bahrani-Yarahmadi, B. and **Shafai Bejestan M.** (2015).” “Sediment management and flow patterns at river bend due to triangular vanes attached to the bank.” *Journal of Hydro-environment Research, Elsevier publisher*, Vol.10, p.64-75.
26. Ashourrian, M., **Shafaei Bejestan, M** and H. Babazade (2016). “Investigation of headcut erosion in cohesive soils”, *Journal of Water Resource, Springer*. Vol 45, No.1, 69-78.

27. Kouchak, P. and **Shafai Bejestan, M.** (2016). "The Effect of Relative Surface roughness on Scour Dimensions at the Edge of Horizontal Apron", International Journal of Sediment Research, Published by Elsevier, Vol.31, Issue2, p. 159-361
28. Ghanbari Adivi, **M Shafai Bajestan**, J Kermannezhad (2016). "Riprap sizing for scour protection at river confluence, Journal of Hydraulic Structures 2 (1), 1-11
29. Ashourrian, M., Shafaei Bejestan, M and H. Babazade (2017). "Experimental study of headcut erosion in cohesive soils under different consolidation types and hydraulic parameters", Journal of Environmental Earth Sciences, Springer, Vol 76, No.438, pp:2-9
30. Shokrian Hajibehzad M. and **Shafai Bejestan M.** (2017). "Predicting the sequent depth ratio of a B-F hydraulic jump on a river-bed rock chute", Proceedings of the Institution of Civil Engineers - Water Management, online published, DOI: DOI: 10.1680/jwama.16.00047.
31. Amini, B Balouchi, **M Shafai Bejestan** (2017). "Reduction of local scour at river confluences using a collar", International Journal of Sediment Research 32 (3), 364-273.
32. Hasanzade, H. , **M. Shafai bejestan** and G. Rostami (2018). Performance evaluation of correction coefficients to optimize sediment rating curves on the basis of the Karkheh dam reservoir hydrography, west Iran. Arabian Journal of Geosciences, Vol.15, No.595, pp.1-9.
33. Keramatzade, M., **M. Shafai Bejestan** and M. bahrami Yarahmadi (2019) Control of River Bend Migration Using Trapezoidal Spur Shape, Water Resources, 2019, Vol. 46, No. 1, pp. 39-44
34. Azarang F., **Shafaei Bejestan M.**, Jafari G., Karami M. 2019. The application of global experiences in evaluation of mining zone: Case study the Zohreh River. Journal of Water and Land Development. No. 41 (IV-VI) p. 19-30. DOI: 10.2478/jwld-2019-0023
35. Rahmanshahi, M. and **M. Shafai Bejestan** (2019). Gene-Expression Programming Approach for Development of a Mathematical Model of Energy Dissipation on Block Ramps, Journal of Irrigation and Engineering, ASCE, Accepted for publication.
36. Rasheki, M., Azhdary, M., **Shafai Bejestan M.** and H.M.Azmathulla (2019), Estimation of Scour Depth around Submerged Weirs Using Self-Adaptive Extreme Learning Machine, Journal of Hydroinformatics, IWA publishing, In press.
37. Rasheki, M., Azhdary, M., **Shafai Bejestan M.** and H.M.Azmathulla (2019), Control of Bed scour downstream of Ski-Jump Spillway by Combination of six-legged Concrete elements and riprap, Water, under review.
38. Sajjadi, M., Pilbala, A. and **M. Shafai Bejestan** (2019). Hydraulic Performance of Elliptical-Lopac Gate under Submerged Flow Conditions, Journal of Irrigation and Engineering, ASCE, under review.

Conference papers

Over the past years more than 174 papers has been presented in Iranian conferences. Papers presented in international conferences are listed below:

- 1-Shafai-Bajestan , M.(1991) Incipient Motion Criteria Below Circular Jets. Proceedings of the International Symposium on Environmental Hydraulics ,Univ. of Hong Kong . Shafai-Bajestan , M.(1992). "Riprap Stilling Basin Below Pipe Outlet. Proceedings of the International Symposium on Hydraulic Research in Nature and Laboratory , Wuhan China .
- 2-Shafai-Bajestan , M.(1993). "Incipient Motion Criteria Below Circular Jests". Environmental Management Geo-Water and Engineering Aspects, Edited By Robin Chowdhary & (Siva) M. Sivakomar , A.A. Balkema Publishers . 1993

- 3-Shafai-Bajestan , M. and M. I. Alberston (1993). "Design of Riprap Stilling Basin for Overhanging Pipe." Proceedings of the National Conference on Hydraulic Engineering . ASCE , San Francisco , California .
- 4-Shafai-Bajestan , M. and M. I. Alberston and Abt S.R.(1993). "Design of Riprap Stilling Basins". Proceedings of the International Riprap Workshop. Ft Collins , Colorado , USA .
- 5-Shafai-Bajestan , M. , Sayahi , A. and M. I. Alberston(1994). "Time development of Scour Hole Downstream of the SAF Stilling Basin". Hydraulic Engineering ASCE Vol.1.
- 6-Shafai-Bajestan , M. , Sayahi , A. and M. I. Alberston(1995) "Scour Hole Downstream of the SAF Stilling Basin" .Proceeding 6th International Symposium River Sedimentation .New Delhi .
- 7-Shafai-Bajestan , M. , Foroughi, A.(1996) "Stabilization of the Karkhe-river Using Submerged Vane" Environnemental Management, Proc. Of the 2nd Int. Conf. On Environment Management , Australie
- 8-Shafai-Bajestan , M. , Behzadi-poor, A.(1998). "Control of sediment deposition at the Amir-Kabir pump station using a physical hydraulic model".
Inte. Water Resources Engineering Conf. . ASCE , Memphis, Tennessee USA
- 9-Shafai-Bajestan , M. , Behzadi-poor(1998). "Sediment deposition control at pump station by submerged vanes" 7th Int. Symp. On River Sedimentation , Univ. Hong Kong
- 10-Shafai-Bajestan , M.(1999). "Transport of sediment into a channel branch in a river bend" .Proceeding of the I.A.H.R. Symp. On River, Coastal and Estuarine Morphodynamics. Unive. Of Genova ITALY.
- 11-Shafai-Bajestan , M. and Ostad Askaari.(2000). "A computer model for modified Einstein procedure and its application in two Iranian Rivers". Proc. Of the 8th Inte. Symp. On Stochastic Hydraulics, Beijing China.
- 12-Shafai-Bajestan , M.(2000) "Experimental study on frontal intakes structures". Int.. Agriculture Engineering Conf. Bangkok Thailand
- 13-Shafai-Bajestan , M. , Salimi-Golsheikhi.(2001). "Effect of tree roots on stability of river banks . 3rd Int. Symposium On Environmental Hydraulic , Arizona State Univ. , USA
- 14-Shafai-Bajestan , M. , Hasooni Zadeh , H. ,(2001). "Pressure fluctuation at the Base of Hydraulic Stilling Basin. Proc. Of the ASCE Conf. , Reno , Texas , USA.
- 15-Shafai-Bajestan,M.and M.Salimi–Golsheikhi(2001)."Effect of tree roots on soil stability" proceeding of 6 ISTVS, Asian Institute of Technology, Bangkok, Thailand
- 16-Hassuni-Zadeh, H. and M. Shafai-Bajestan (2001). " Measurement of pressure fluctuations at the bottom of a hydraulic jump " 8th Int. Symp. On Flow modeling and Turbulence Measurements, IAHR conference, Nihon University, Tokyo, Japan.
- 17-Shafai-Bajestan, M. (2002). "Micro-Modeling investigation of sediment deposition at river intakes". Int. Hydraulic measurement and Experimentation Conference, USBR-ASCE, Colorado, USA.
- 18-Hassuni-zade and M.Shafai-Bajestan (2002), " Design criteria of hydraulic jump stilling basin Slabs". Int. Hydraulic Measurements and Experimentation Conference, USBR-ASCE, Colorado, USA.
- 19-Shirdeli, A. and M.Shafai-Bajestan (2002), " On the experimental measurement of Bahmanshir navigation locks" Int. Hydraulic Measurements and Experimentation Conference, USBR, Colorado, USA

- 20-Shafai-Bajestan, M. and Esmaeel-Nejad(2002) "Micro model investigation of different alternatives for Vosaila intake" River flow 2002, Int. conf. On Fluvial Hydraulics. IAHR, Belgium.
- 21-Mahmoodi Kordestani, M and M.Shafai-Bajestan (2002) "Experimental investigation of hydraulic criteria in the fishways" International conference on Environmental Engineering, 2002 joint CSCE/EWRI of ASCE conference/Nigara falls, Ontario, Canada.
- 22-Shafai-Bajestan, M. and Shirdeli, A. (2002). Hydraulic Model Study of Bahmanshir Navigation locks. 5th Int. conf. On Hydro-Science & Engineering, Warsaw, University of Technology, Warsaw, Poland.
- 23-Shafai-Bajestan, M. and Shirdeli, A. (2002). Discharge coefficient of rectangular orifice, 7th International Agricultural Engineering Conference (IAEC 2002), Wuxi, China.
- 24-Shafai – Bajestan, M. and Salimi – Golsheikhi M. (2004), "Effect of tree roots on stabilizing Karoon banks". 1st Conference on Managing Rivers in 21st Century University Sains Malaysia, Penang.
- 25-Lashkar-Ava, B. Shafai – Bajestan, M. and K. Hemmadi (2004). Impact of excessive sand and gravel mining at Balaroud river, 1st Conference on Managing Rivers in 21st Century University Sains Malaysia, Penang.
- 26-Lashkar – Ara, B. Shafai-Bajestan, M. (2004), Managing local scour at Balaroud river bed downstream of inverted siphon". 1st Conference on Managing Rivers in 21st Century University Sains Malaysia, Penang.
- 27-Shafai-Bajestan, M. and Kazemi-Nasaban, GH. (2004). "Prediction of local scour downstream of gabion stepped spillway", 2nd Int. Conf on Scour and Erosion, Singapore.
- 28-IzadJoo, F. and Shafai-Bajestan, M (2005). "Effect of trapezoidal shape corrugated bed on the characteristics of hydraulic Jump." 17th Canadian Hydrotechnical Conference, August 17-19, Edmonton, CANADA
- 29-Shafai-Bajestan, M. and Rezaei, N. (2005). "Prediction of TDS and temperature profile in Kondok reservoir using HEC5Q model." MTERM International Conference Jun 06-10, AIT, Thailand.
- 30-Shafai-Bejestan, M.(2006). "Investigation of the effects of roots on river banks soil characteristics.", International conference on Soil Biohydrology, Prague, Czeck Republic.
- 31-Ghobadian, R. and Shafai-Bejestan, M.(2007). 'Scour investigation at river confluence.", 10th International Symposium on River Sedimentation." Moscow State University, Moscow, Russia.
- 32-Shafai Bejestan, M. and M. Hemmati (2008). "Effect of river bed discordance on scour dimensions at river confluence". River flow 2008, Izmir, turkey, pp: 1083-1087.
- 33-Shafai Bejestan, M. and A. Kamanbedast (2008). "Experimental investigation of the effects of sediment on discharge coefficient at bottom intake". 2nd Int. Junior Research on Hydraulic structures, university of Pisa, Pisa, Italy. 34- Shafai Bejestan and Neisi, K. (2009). „Shorter stilling basin downstream of gates using rectangular elements on the bed” Proceeding of International Agricultural engineering conference, AIT, Bangkok.
- 35-Shafai Bejestan, M. and Bahrami Yarahmadi, M. (2009). „Manning’s roughness of channels covered with different gravel shapes” Proceeding of International Agricultural engineering conference, AIT, Bangkok.

- 36-Shafai Bejestan, F.Jarrahzade, S.Ramesh and H. Mashkoornia (2010). "Experimental study on Bendway weirs", River Flow 2010, Braunschweig, Germany.
- 37-Shafai Bejestan M.and Gh. Kazemi Nasaban (2010). "Experimental study on gabion stepped spillway", XXX International School of. Hydraulic conference, Weijce palace, Poland..
- 38-M. Karami Moghaddam, M. Shafai Bejestan and H. Sedghi (2010). "Sediment investigation at the 30 degree water", XXX International School of. Hydraulic conference, Weijce palace, Poland
- 39-Shafai Bejestan M. and M. Seyedian (2011). " Determination of stream tube dimensions and the strength of secondary circulation at lateral intakes. Proceeding of World Environmental and Water Resources conference. ASCE.
- 40-Shafai Bejestan M. and R. Azizi (2012). "Experimental Investigation of Scour Depth at the Edge of Different Submerged Vanes Shapes. Proceeding of World Environmental and Water Resources conference, Albuquerque, New Mexico.
- 41-Shafai Bejestan M. and M. Bahrami Yarahmadi (2012). "River bed resistance coefficient variation of different sediment particle shape", World Environmental and Water Resources conference, Albuquerque, New Mexico.
- 42-Shafai Bejestan M. and M. Bahrami Yarahmadi (2014)." Study of the effect of triangular vane on bed topography in a 90 degree mild bend. "River Flow 2014, Lausanne Switzerland.
- 43-Shafai Bejestan M. and N. Najafi (2014). "The effect of triangular shape spurs(TSS) on bed topography in a straight flume", Proceeding of the 19th IAHR-APD Congress 2014, Hanoi, Vietnam.
- 44-Shafai Bejestan M and M. Zolghadr (2015). The effect of depth of placement of six-leg concrete elements on bridge abutment scour", proceeding of the 9th symposium on River, Coastal and Estuarine Morphodynamics, Iquitos, Peru, Sept.2015.
- 45-Masih Zolghadr; Mahmood Shafai Bejestan; and Mehdi Rezaeianzadeh (2016). "Investigating the Effect of Six-Legged Element Placement Density on Local Scour at Wing-Wall Bridge Abutments, World Environmental and Water Resources Congress 2016, ASCE.
- 46-M Shafai-Bejestan, N Raei (2016). Control of bridge abutment scour using triangular vanes, River Sedimentation: Proceedings of the 13th International Symposium on River sedimentation.

Research Topics

Over the past years 25 research studies are conducted by financial received from SCU, Khuaestan Water and Power Authority, Khuzestan department of road, transportation Iranain Ministry of power and Iranian Plan and Budget Organization.

Here are a few completed or on-going research topics:

- 1- "Investigation of consolidation coefficient for clay in Ahvaz region" financially supported by SCU
- 2- "Design criteria of bottom intake structures" financially supported by SCU
- 3- "Hydraulic criteria at fish ways" financially supported by Iranian ministry of Power.
- 4- "Investigation of sediment deposition in two pump intake stations" financially supported by Iranian Research Committee.

- 5- "Design criteria at frontal intake structures" financially supported by Iranian Ministry of Power.
- 6- "Stability of Karun banks due to present of tree roots" financially supported by Iranian Ministry of Power.
- 7- "Micro-model investigation to optimize the intake design in Hamidiye-diversion dams" financially supported by Khuzestan Water and Power Authority(KWPA).
- 8- "Hydraulic criteria for vortex-tube sediment excluder," financially supported by Khuzestan Water and Power Authority(KWPA)
- 9- "Investigation of hydraulic & sediment performance for new location of Chamran Intake," financially supported by Khuzestan Water and Power Authority(KWPA)
- 10- "Effects of tailwater in stilling basin slab design ," financially supported by SCU.
- 11- Hydraulic model investigation of bottom intake structure for small hydropower projects, financially supported by Khuzestan Water and Power Authority(KWPA).
- 12- Investigation of river bed scour at river confluences, financially supported by Khuzestan Water and Power Authority(KWPA).
- 13- Investigation of the effect of unequal bed level on the scour dimensions at river confluences, financially supported by Khuzestan Water and Power Authority(KWPA).
- 14- Field and experimental investigation of suspended sediment concentration in canal, financially supported by Khuzestan Water and Power Authority(KWPA).
- 15- Model study for increasing the trap efficiency of two major desilting basins in Khuzestan, financially supported by Khuzestan Water and Power Authority(KWPA).
- 16- Investigation of use of horizontal footing for reducing bank erosion in convergence river bends, financially supported by Khuzestan Water and Power Authority(KWPA).
- 17-Preparing a manual on sedimentation and desiltation of reservoirs, financially supported by Ministry of Power.
- 18- Hydraulic and numerical investigation on the effects of side slope canal on the flow patterns and sediment entry to the lateral intakes. Supported by KWPA.
- 19- Field investigation of erosion and scour problems at two bridges in Khuzestan province, Iran, supported by Khuzestan department of road and transportation.
- 20-Study on the use of submerged vanes to control erosion and sedimentation at river bridge crossing, supported by Khuzestan department of road and transportation
- 21- Study on the effect of upward seepage on scour downstream of check dams, Supported by KWPA.
- 22- Study on the effect of bed roughness of hydraulic jump stilling basins on the jump and pressur fluctuation characteristics, Supported by KWPA.
- 23- Study on the effect of intake angles of a trapezoidal canal on the entry flow discharge and suspended sediment load supported by IMP.
- 24- Physical study of Mared dam and navigation locks, supported by KWPA.
- 25- Physical study of Bahmanshir navigation locks, Supported by KWPA.
- 26- Physical study of the floated vanes to control Karun river outer bank at Jangiye (south of Ahvaz). Supported by KWPA.

Courses Taught

During past years many courses taught:

Undergraduate :

Soil Science
 Hydraulics
 Design of Conveyance Structure 1
 Design of Conveyance Structure 2

M.Sc :

Computer Methods in Hydraulics
 Numerical Analysis
 Sediment Transport
 Hydraulic of Flow through Open Channel

Regulating Structures
 River Engineering

Ph.D :

Advanced Hydraulics
 Computing Hydraulics
 Advanced Hydraulic Models
 Hydrology & Hydraulic of Sediments
 Advanced river engineering
 Design of intake structures from rivers

M.Sc & Ph.D Supervisor

Over the past years I have been supervisor of 18 Ph.D students and 62 M.Sc students.

Work Experience

Over the past years I have been involved in designing or consulting a wide range of water supply projects in the province of Khuzestan. Also I have been active in the following organizations or consulting engineers :

- 1- Member of Engineering Committee of Khuzestan Water & Power Authority (KWPA), 1998-2010.
- 2- Member of Engineering Committee of Sistan Water Compony, 1999-2001.
 - Consultant to the flood control projects under construction in the province of Sistan and Bloochestan.
 - Consultant to few rockfill dams under studies for the purpose of flood control and ground water recharge, in the province of Sistan and Bloochestan, Iran.
- 3- Dezab Consulting Engineering, 1989-1998:
 - Responsible for Hydraulic studies and design of Shahid-Rejaee's water intake, in the province of Khuzestan, with capacity of 15(cms)
 - Responsible for the hydraulic studies and design of Bone-Basht water intake, in the province of Khuzestan, with capacity of 3(cms)
 - Responsible for the pheasibility study of a few irrigation and drainage projects, in the province of Khuzestan.
 - Responsible for the pheasibility study and preliminary design of Ramhormoz diversion dam projects, in the province of Khuzestan.
 - Head of research committee for two years
- 4- Bahmanshir Dredging Project, 1995-2000:
 - Member of engineering committee
 - Consultant on the navigation lock physical model study
 - Consultant on the design of river banks slope stability analysis
 - Consultant on the desin of two dams to be built upstream and downstream end of Bahmanshir River, in the province of Khuzestan.
- 5- Tarh Now Andishan Consulting Engineers, 2001 – 2005.
 - Member of engineering committee
 - Responsible for the hydraulic studies of Kondok Reservoir dam, in the province of Khuzestan.
 - Consultant to the water quality model study of Kondok reservoir, in the province of Khuzestan.
 - Consultant to the pheasibility study of small and medium hydropower in Marun watershed basin , in the province of Khuzestan.
 - Consultant to the Paveh river flood mapping, in the province of Kordestan, Iran.
 - Consultant to the Merek river flood mapping, in the province of Kordestan, Iran.

6- Ab Karkhe Consulting Engineers, 2006 – 2010.

- Member of engineering committee
- Supervisor for the irrigation system of Ahwaz city.
- Supervisor for the Saghir Arvand river projects, a multidisipline river engineering project.
 - Conducting numerical investigation on Saghir Arvand river, a tidal river using MIKE11.
 - Supervisor for the river training project in Masjed Soleiman
 - Conducting pheasibility study for water supply to Shadegan from Karoon river

7- Afraz Peymayesh Consulting Engineering 2009- 2011

- Supervisor for Water supply project of Hajahmad in Bushehr province
- Conducting study of Phase 1 & 2 of considering three small dams in Karoon river within Ahwaz city for the purpose of recreation and water sport.

8-ArvinKhok Consulting Engineering, 2009-2012

- Responsible for the design of bendway weirs to prevent toe erosion of flood protected levees in Dez River, Dezfull.
- Conducting study of phase I and II for design of 7km levee for the purpose of flood protection in Dez river