



## Civil Engineering Faculty

Sahand University of Technology

---

**Curriculum** [Home](#)

[Site Map](#)

[News & Events](#)

[People](#) ▶

[Education](#) ▶

[Research](#) ▶

[Send FeedBack](#)

[Contact us](#)

[Sign-In](#)

### **Habib Hakimzadeh, PhD**

Associate Professor of Coastal Engineering

#### **Personal:**

**Name:** Habib

**Family Name:** Hakimzadeh

**Birth Date:** 23th Oct. 1961

**Status:** M

**Position:** Professor of Coastal Engineering

**Address:** Faculty of Civil Engineering, Sahand University of Technology,

P.O.Box 51335-1996, Tabriz, Iran

**Tel:** 41-33459391

**Fax:** 41-33444343

**E-Mail:** [hakimzadeh@sut.ac.ir](mailto:hakimzadeh@sut.ac.ir)

---

#### **Professional Experience:**

*Coastal Engineering*

---

#### **Education:**

- *Ph.D. Coastal Engineering , Bradford University , UK, 1997.*

*Thesis: Turbulence Modelling of Tidal Currents in Rectangular Harbours*

- *M.Sc. Hydraulic Structures , Tabriz University , Iran ,1991.*

*Thesis: Numerical and Experimental Investigation of Buckling of Steel Plates*

- *B.Sc. Civil Engineering (Water ) ,Tabriz University, Iran ,1988.*

---

#### **Interests:**

*Numerical Simulation of Flow and Sediment Transport,*

*Turbulence Modelling,*

*Reservoir Sedimentation,*

*Scour Hydraulics*

---

#### **Language:**

*Persian, English*

---

#### **Teaching Experience:**

##### **In M.Sc:-**

*1.Fundamentals of Marine Hydraulics*

*2.Numerical Methods in Marine Engineering*

*3.Coastal Engineering*

*4.Computational Fluid Dynamics*

**In Ph.D:-**

1. *Advanced Hydrodynamic*
  2. *Hydraulics Structures*
  3. *Computational Hydraulics II*
  4. *Turbulence Theory*
  5. *Sediment Transport*
- 

**Awards and Distinctions:**

*First-Rank in B.sc.*

*Iranian Water Engineering Festival (IWEF)*

---

**Translated Books:**

**Hydraulics** in Civil and Environmental Engineering (in 2 Volumes)

---

**Publications:**

1. Tohidi, H.R. and Hakimzadeh, H., "Experimental and Numerical Investigation of Scouring Process around the Piers with Lateral Boundaries Fitted by Velocity Profile Due to Steady Flow", *Journal of Hydraulics*, (in Persian, Accepted, in Press).
2. Aghaee-Shalmani, Y. and Hakimzadeh, H., "Experimental Investigation of Scour around Semi-Conical Piers under Steady Current Action", *European Journal of Environmental and Civil Engineering*, 2015, Vol. 19, Issue 6, pp. 717-732.
3. Pourahmadi, M. and Hakimzadeh, H., "Experimental Investigation on Local Scour around the Conical and Pyramidal Piers", *Journal of Hydraulics*, *Journal of Hydraulics*, 2015, Vol.9, No.3, pp. 81-89. (in Persian)
4. Kardan, N., Hakimzadeh, H. and Hassanzadeh, Y. "Experimental Study of Combined Models of Berm, Side Slope and Slot in Decreasing the Bed Erosion around Bridge Piers", *Modares Journal of Civil Engineering*, 2015, Vol. 15, Issue 2, pp. 103-116 (in Persian).
5. Arshad Shabkhaned, B. and Hakimzadeh, H. "Investigation into Effect of Burial Depth of Offshore Pipelines in Tandem Position on Flow Separation Using the Experimental and Numerical Models", *Journal of Civil and Environmental Engineering, University of Tabriz*, 2015, Vol. 45.1, Issue 78, pp. 1-13 (in Persian).
6. Mahmoudi, A., Hakimzadeh, H. and Ketabdari, M.J. "Simulation of Wave Propagation over Coastal Structures Using WCSPH Method", *International Journal of Maritime Technology*, 2014, Vol. 2, pp. 1-13.
7. Kardan, N., Hakimzadeh, H. and Hassanzadeh, Y., "3D Simulation of Hydrodynamic Parameters around Bridge Piers Using Various Turbulence Models", *Journal of Irrigation Science and Engineering, Shahid Chamran University of Ahvaz*, 2014, Vol. 37, No. 4, pp. 39-54 (in Persian).
8. Mahmoudi, A., Hakimzadeh, H. and Ketabdari, M.J., "A comparison Between Performance of Turbulence Models on Simulation of Solitary Wave Breaking by SPH Method", *Journal of Civil Engineering and Urbanism*, 2014, Vol. 4, Issue 1, pp. 1-7.
9. Kardan, N., Hassanzadeh, Y. and Hakimzadeh, H. "3D Numerical Study of Combined Models of Pier Shape and Slot on Reducing the Bed Shear Stresses, Starter of Scouring around the Bridge Pier", *Journal of Civil and Environmental Engineering, University of Tabriz*, 2015, vol. 44.4, Issue 77, pp. 39-50 (in Persian).

10. Soleiman Beygi, N., Hakimzadeh, H., and Chenaghlou, M.R., "Simulation of Free Surface Flows Using Volume of Fluid Method and Genetic Algorithm", Journal of Hydroinformatics, IWA Publishing, 2014, Vol. 16, No. 5, pp. 1110-1124.
11. Hakimzadeh, H., Nourani, V. and Babaeyan Amini, A., "Genetic Programming Simulation of Dam Breach Hydrograph and Peak Outflow Discharge", Journal of Hydrologic Engineering, ASCE, April 2014, Vol. 19, No. 4, pp. 757-768.
12. Mahmoudi, A., Hakimzadeh, H. and Ketabdari, M.J. "Simulation of Wave Propagation over a Submerged Breakwater on a Sloped Bed by SPH Method", International Journal of Offshore and Polar Engineering, Vol. 23, No.4, December 2013, pp. 286-291.
13. Miralizadeh Orang, S.M.R., Lotfollahi Yaghin, M.A., Hosseinzadeh Dalir, A. and Hakimzadeh, H., "Investigation of Local Scour Process around Marine Pipelines with Respect to a Submerged Impermeable Plate Using the Physical Models", Modares Journal of Civil Engineering, 2013, Vol. 13, Issue 4, pp. 125-136. (in Persian)
14. Soleiman Beygi, N., Hakimzadeh, H., and Chenaghlou, M.R., "Combination of VOF and Artificial Intelligence Methods to Simulate Free Surface of the Fluid Flow", Journal of Numerical Methods in Engineering, 2013, Vol. 32, No. 2, pp. 15-32 (in Persian).
15. Arshad Shabkhaneh, B. and Hakimzadeh, H., "Investigation on Effect of Offshore Pipelines Fitting Distances on Flow Separation around them Using Experimental and Numerical Models", Journal of Marine Engineering, 2012, Vol. 18, No. 16, pp. 51-64 (in Persian)
16. Ghaldarbandi, R., Keshavarz, M.H. and Hakimzadeh, H., "Investigation of the Bed and Structural Slopes on Bed Shear Stress and Flow Characteristics around an Impermeable Groyne", Journal of Hydraulic Structures, 2013, Issue 1, pp. 10-22.
17. Aghaee-Shalmani, Y. and Hakimzadeh, H "Numerical Modeling of Flow around Cylindrical Piers Using Single and Dual Time-Stepping and Methods of RANS and LES", Journal of Hydraulics, 2012, Vol.7, No.3, pp. 55-71. (in Persian)
18. Hakimzadeh, H., Hafezizadeh, S., Almaspoor, F. and Mahmoudi Moghadam, J. "Two-dimensional Simulation of Sediment Transport Prediction in Dam Reservoirs Using the Combination of a Numerical Model and GIS (Case Study: Aydoghmoosh Dam Reservoir) ", Journal of Civil and Environmental Engineering, University of Tabriz, 2013, Vol.42, No 4, pp. 59-65. (in Persian)
19. Nourani, V., Hakimzadeh, H. and Babaeyan Amini, A., "Implementation of Artificial Neural Network Technique in Simulation of Dam Breach Hydrograph", Journal of Hydroinformatics, IWA Publishing, 2012, Volume 12, No. 2, pp. 478-496.
20. Hassanzadeh, Y., Hakimzadeh, H. and Ayari, S. "Study on the Effects of Bridge Pier Shape on Flow Pattern Using the Fluent Software", Iran-Water Resources Research, 2012, Vol.7, No.4, pp. 95-105. (in Persian)
21. Babaeyan Amini, A., Nourani, V. and Hakimzadeh, H. "Application of Artificial Intelligence tools to Estimate Peak Outflow from Earth Dam Breach", International Journal of Earth Sciences and Engineering, October 2011, Vol. 4, No. 06 SPL, pp. 243-246.
22. Forouzandeh, N., Hakimzadeh, H., Aghtouman, P. and Karami Khaniki, A. "Experimental Investigation on Effect of Draught, Mass and Sheet Height in Pontoon Floating Sheet Breakwaters on Transmission and Reflection Coefficients Subject to Irregular Waves", Journal of Marine Engineering, 2011, Volume 7, No. 13, pp. 17-28. (in Persian)
23. Babaeyan Amini, A., Hakimzadeh, H. and Nourani, V. "Estimation of Peak Outflow Discharge from Earthen Dam Breach Using Artificial Intelligence", Journal of Civil and Environmental Engineering,

- University of Tabriz, 2011, Vol. 40, No. 3, pp. 107-113. (in Persian)
24. Soleiman beygi, N. and Hakimzadeh, H., "Numerical Model Development for Simulation of Vertical Flows Using Finite Volume Method", Journal of Civil and Environmental Engineering, University of Tabriz, 2010, Volume 40, No. 2, pp. 39-49. (in Persian)
  25. Besharati, M.H. and Hakimzadeh, H., "Three-dimensional Numerical Investigation of Flow Pattern and Bed Shear Stress around Conical Piers", Journal of Marine Engineering, 2010, Volume 6, No. 11, pp. 63-70. (in Persian)
  26. Mahmoodi, A. Afshin, H., Hakimzadeh, H. and Jalali, D., "Investigation of the Reinforced Concrete Durability in Severe Corrosive Marine Environment According to its Position with Respect to Sea Level", Journal of Marine Engineering, 2009-2010, Volume 5, No. 10, pp. 77-87. (in Persian)
  27. Delavar, A., Hakimzadeh, H. and Chenaghlou, M.R., "Application of the A.N.Ns to Estimate the Reflection and Transmission Coefficients of Pontoon Floating Breakwaters", Journal of Civil and Environmental Engineering, University of Tabriz, 2009, Volume 39, No. 2, pp. 21-31. (in Persian)
  28. Hassanzadeh, Y., Hakimzadeh, H., Sarveram, H. and Delafrooz, H., "Investigation of the Free Surface Profile of a Steady Flow around a Cylindrical Pier Using Numerical Model", Journal of Hydraulics, Iranian Hydraulic Association, 2009, Volume 4, No. 2, pp. 59-65. (in Persian)
  29. Omrani, S., Hakimzadeh, H., "Numerical and Empirical Investigation of Flow Separation Phenomenon around Semi-buried Pipelines due to Steady Currents", Journal of Marine Engineering, 2008-2009, Volume 4, No. 8, pp. 65-75. (in Persian)
  30. Keshavarz, M.H., Hakimzadeh, H. and Ghaldarbandi, R., "Three-dimensional Numerical Simulation of Flow Pattern around the Perpendicular and Inclined Groynes with Respect to Various Boundary Conditions", Journal of Marine Engineering, 2008-2009, Volume 4, No. 8, pp. 11-24. (in Persian)
  31. Mohammadi, R., Hakimzadeh, H., "Investigation of Cross Sectional Shape Effect of the Cylindrical Piers on Scour Process Using a Physical Model", Journal of Faculty of Engineering, University of Tabriz, 2008, Volume 37, No.3 (Civil Engineering), pp. 33-43. (in Persian)
  32. Hassanzadeh, Y., Hakimzadeh, H., Alami, M.T. and Sarveram, H., "Investigation of Backwater Effect of a Pier in Subcritical Flows Using the Numerical and Empirical Models", Journal of Faculty of Engineering, University of Tabriz, 2008, Volume 36, No.3 (Civil Eng.), pp. 15-22. (in Persian)
  33. Hakimzadeh, H. and Falconer R.A, "Layer Integrated Modelling of Three Dimensional Recirculation Flows in Model Tidal Basins", Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, September/October 2007, Volume 133, Issue 5, pp. 324-333.
  34. Hossieni, D., Hakimzadeh, H. and Ghiassi, R., "Investigation of Local Scour Process Around Pipelines Using the Numerical and Physical Models", Journal of Marine Engineering, 2006, Volume 3, No. 5, pp. 37-52. (in Persian)
  35. Hakimzadeh, H., "3D Numerical Modelling of Water Circulation in River Harbours Using the Zero- and Two-Equation Turbulence Models", Journal of Faculty of Engineering, University of Tabriz, 2005, No. 39, pp. 9-21. (in Persian)
  36. Hakimzadeh, H. "Second-Order Closure Study of River-Harbour Flow", Iranian Journal of Science and Technology, University of Shiraz, 2004, No. B5-28, pp. 573-581.
  37. Hakimzadeh, H., "Simulation of Water Circulation in River Harbours Using the Zero- and Two-Equation Turbulence Models", Journal of Faculty of Engineering, University of Tabriz, 2002, No. 27, pp. 1-12. (in Persian)

38. Hakimzadeh, H. and Keynajad, M.A., "Numerical Model Study of Tidal Circulation in Rectangular Harbours Using the k-e Turbulence Model", Journal of Faculty of Engineering, University of Tabriz, 1998, No. 20, pp. 51-58. (in Persian)

---

#### Presentations:

1. Bozorgi, A., Hakimzadeh, H, Sedaaghi, M.H., Ghazvini, H. and Hassankhani, R. " Investigation into Equilibrium and Stability of Semi-Submersible Rigs at Damage Condition", Proceedings of 6th International Offshore Industries Conference, Tehran, Book of Abstracts, Full paper in CD, 2015.
2. Kabiri, A. and Hakimzadeh, H. "Numerical Investigation into Effect of Floating Breakwaters Geometries with Similar Draft on their Efficiencies", Proceedings of 6th International Offshore Industries Conference, Tehran, Book of Abstracts, Full paper in CD, 2015.
3. Mahmoudi, A., Hakimzadeh, H., Ketabdari, M.J. and Aein, H. "Numerical Simulation of Wave Propagation over Impermeable Submerged Breakwater Using SPH", Proceedings of 6th International Offshore Industries Conference, Tehran, Book of Abstracts, Full paper in CD, 2015.
4. Bozorgi, A., Hakimzadeh, H, Sedaaghi, M.H. and Ghazvini, H. "Numerical Investigation into Equilibrium and Stability of Semi-Submersible Rigs at Intact Condition", Proceedings of 16th Marine Industries Conference, Bandar Abbas, Book of Abstracts, Full paper in CD, 2014.
5. Mahmoudi, A., Hakimzadeh, H. and Ketabdari, M.J., "Numerical Simulation of Non-Reflected Wave in a Tank Using WCSPH Method", Proceedings of 10th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2014", Full paper in CD, 2014.
6. Tohidi, H.R. and Hakimzadeh, H. "Experimental Investigation of Local Scour around the Piers with Lateral Boundaries Fitted by Velocity Profiles Due to Steady Flow", Proceedings of 12th Iranian Hydraulic Conference, University of Tehran, Full paper in CD, 2013.
7. Khazaei, M., Hakimzadeh, H. and Tahaie, S. "Prediction of Oil Spill in Coastal Regions of Caspian Sea due to drilling of Amirkabir Platform and Oil Wells of Azarbaijan", Proceedings of 15th Marine Industries Conference, Kish Island, Book of Abstracts, Full paper in CD, 2013.
8. Mahmoudi, A., Hakimzadeh, H. and Ketabdari, M.J. "Simulation of Wave Breaking by SPH Method with Turbulence Modelling", Proceedings of 10th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2012", Full paper in CD, 2012.
9. Kardan, N., Hassanzadeh, Y. and Hakimzadeh, H. "Comparison of Velocity Distribution and Water Level Variations Using Various Turbulence Models to Investigate Flow Pattern around Piers", Proceedings of 11th Iranian Hydraulic Conference, Urmia University, Book of Abstracts, Full paper in CD, 2012.
10. Hakimzadeh, H., Mehrzad, R. and Azari, N. "Experimental Investigation of the Effect of Slotted Conical Piers on Scour Process", Proceedings of Sixth International Conference on Scour and Erosion, Paris, France, 2012.
11. Hakimzadeh, H., Azari, N. and Mehrzad, R. "Experimental Study of the Effect of Lateral Structural Slopes of Groynes on Scour Reduction", Proceedings of Sixth International Conference on Scour and Erosion, Paris, France, 2012.
12. Kardan, N., Hassanzadeh, Y. and Hakimzadeh, H. "Comparison of Dynamic Bed Shear Stress Distribution around a Bridge Pier using Various Turbulence Models", Proceedings of Sixth

*International Conference on Scour and Erosion, Paris, France, 2012.*

13. Azari, N., Hakimzadeh, H. and Mehrzad, R. "Numerical Investigation on Effect of the Groynes' Slopes on Scour Reduction around them", *Proceedings of 9th International Conference on Civil Engineering, Isfahan University of Technology, Book of Abstracts, Full paper in CD, 2012.*
14. Mehrzad, R., Hakimzadeh, H. and Azari, N. "Numerical Investigation on Combined Effect of Conical and Slot in a Pier on Scour Reduction", *Proceedings of 9th International Conference on Civil Engineering, Isfahan University of Technology, Book of Abstracts, Full paper in CD, 2012.*
15. Hassanzadeh, Y. , Hakimzadeh, H., Kardan, N. and Ayari, S. "Comparing the Flow Pattern around the Oval Shape Pier with and without Slot Using Fluent Software", *Proceedings of 9th International Conference on Civil Engineering, Isfahan University of Technology, Book of Abstracts, Full paper in CD, 2012.*
16. Mahmoudi, A. , Hakimzadeh, H. and Ketabdari, M.J. "Numerical Modelling of Wave Transmission over Trapezoid Submerged Breakwater with SPH Method", *Proceedings of 9th International Conference on Civil Engineering, Isfahan University of Technology, Book of Abstracts, Full paper in CD, 2012.*
17. Pourahmadi, M. and Hakimzadeh, H. "Experimental Investigation of Local Scour around Pyramidal Piers Due to Steady Flow", *Proceedings of 10th Iranian Hydraulic Conference, University of Guilan, Book of Abstracts, Full paper in CD, 2011.*
18. Arshad Shabkhaneh, B., Hakimzadeh, H. "Numerical and Experimental Investigations of the Flow Separation Phenomenon around Parallel Pipelines Due to Steady Currents", *Proceedings of 13th International Marine Industries Conference, Kish Island, Book of Abstracts, Full paper in CD, 2011.*
19. Imani Shams Abad, S., Hakimzadeh, H., Aghtouman, P. and Kheirkhah, M. "Investigation of Water Level Effect on Irregular Wave Reflection from Statically Stable Berm Breakwater Using a Physical Model", *Proceedings of 13th International Marine Industries Conference, Kish Island, Book of Abstracts, Full paper in CD, 2011.*
20. Pourahmadi, M. and Hakimzadeh, H. "Experimental Investigation of Local Scour around Conical Piers", *Proceedings of the ASME 30th International Conference on Offshore Mechanics and Arctic Engineering, OMAE2011, Rotterdam, the Netherlands, Full paper in CD, 2011.*
21. Besharati Givi, M.H., Madihi, M.S. and Hakimzadeh, H. "Numerical Investigation of the Effect of a Pier Shape on the Mitigation of Scouring", *Proceedings of the ASME 30th International Conference on Offshore Mechanics and Arctic Engineering, OMAE2011, Rotterdam, the Netherlands, Full paper in CD, 2011.*
22. Miralizadeh Orang, M.R., Lotfollahi Yaghin, M.A., Hoseinzadeh Dalir, A. and Hakimzadeh, H. "Investigation of Local Scour around Pipelines with Respect to Submerged Plate", *Proceedings of 3rd Iranian Pipe and Pipeline Conference, Tehran, Book of Abstracts, Full paper in CD, 2011.*
23. Mehrzad, R. and Hakimzadeh, H. " Investigation of Turbulent Flow Field around Cylindrical Piers with the Circular and Various Aspect Ratios of Elliptical Cross-Sections", *Proceedings of 6th National Congress on Civil Engineering, Semnan University, Book of Abstracts, Full paper in CD, 2011.*

24. Pourahmadi, M. and Hakimzadeh, H. "Experimental Investigation of Local Scour around Conical Piers in Steady Currents", *Proceedings of 6th National Congress on Civil Engineering, Semnan University, Book of Abstracts, Full paper in CD, 2011.*
25. Aghaee, Y. and Hakimzadeh, H. "Three Dimensional Numerical Modeling of Flow around Bridge Piers Using LES and RANS", *Proceedings of the International Conference on Fluvial Hydraulics, Volume 1, River Flow 2010, Braunschweig, Germany.*
26. Pourahmadi, M. and Hakimzadeh, H. "Numerical Investigation of Flow Pattern around a Cylindrical Pier due to Steady Currents Using the First and Second Order Turbulence Models", *Proceedings of 5th National Congress on Civil Engineering, Ferdowsi University of Mashhad, Book of Abstracts, Full paper in CD, 2010.*
27. Kazemi, M.A., Hakimzadeh, H. and Nahid, S. "Numerical Investigation of Wind Induced Currents in Amirabad Port", *Proceedings of 5th National Congress on Civil Engineering, Ferdowsi University of Mashhad, Book of Abstracts, Full paper in CD, 2010.*
28. Arshadi Abyaneh, M., H., Hakimzadeh, H. and Aghtouman, P. "Investigation of the Height and Period Effects on Irregular Wave Transmission from Deformable Berm Breakwaters", *Proceedings of 11th International Marine Industries Conference, Kish Island, Book of Abstracts, Full paper in CD, 2009.*
29. Mahmoodi, A., Afshin, H., Hakimzadeh, H. and Jalali, D. "Investigation of Durability of Reinforcement Concrete in the Splash and Atmospheric Zones of Severe Corrosive Marine Environment", *Proceedings of 8th International Conference on Civil Engineering, Shiraz University, Book of Abstracts, Full paper in CD, 2009.*
30. Sarveram, H., Hassanzadeh, Y. and Hakimzadeh, H. "Investigation of Flow Velocity Distribution around a Pier Using a Numerical Model", *Proceedings of 8th International Conference on Civil Engineering, Shiraz University, Book of Abstracts, Full paper in CD, 2009.*
31. Ayari, S., Hakimzadeh, H. and Hassanzadeh, Y. "Investigation of the Shapes of Piers on Flow Pattern Using the Fluent Software", *Proceedings of 8th International Conference on Civil Engineering, Shiraz University, Book of Abstracts, Full paper in CD, 2009.*
32. Babaeyan Amini, A., Hakimzadeh, H. and Noorani, V. "Sensitivity Analysis of Earth Dam Breach Parameters and Determination of Outlet Hydrograph Due to Breach", *Proceedings of 8th International Conference on Civil Engineering, Shiraz University, Book of Abstracts, Full paper in CD, 2009.*
33. Mahmoodi, A., Afshin, H., Hakimzadeh, H. and Jalali, D. "Investigation of Durability of Reinforcement Concrete in Severe Corrosive Marine Environment", *Proceedings of the Third International Conference on Concrete & Development, Full paper in CD, 2009.*
34. Aghaee, Y. and Hakimzadeh, H. "Three Dimensional Numerical Modelling of Oscillatory Flow Around Cylindrical Piers", *Proceedings of 8th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2008", Book of Extended Abstracts, Full paper in CD, 2008.*
35. Anvari, V. and Hakimzadeh, H. "Investigation of the Directional Effect of Spindly Piers with Fluid on Scour Reduction and its Comparison with Cylindrical Piers", *Proceedings of 8th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2008", Book of Extended Abstracts, Full paper in CD, 2008.*
36. Besharati, H. and Hakimzadeh, H. "Numerical Investigation of Bed Scour Around Conical Piers Using the K-E Turbulence Model", *Proceedings of 8th International Conference on*

- Coasts, Ports & Marine Structures, ICOPMAS "2008", Book of Extended Abstracts, Full paper in CD, 2008.
37. Forouzandeh, N., Hakimzadeh, H., Aghtuman, P. and Karami, A. "Physical Investigation of the Effect of Pontoon Floating Breakwater's Sheet Height on Transmission and Reflection Coefficients Subject to Irregular Waves", *Proceedings of 8th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2008", Book of Extended Abstracts, Full paper in CD, 2008.*
38. Ghaldarbandi, R., Hakimzadeh, H. and Keshavarz, M.H. "Numerical Model Investigation of the Effect of the Groyne-wall Slope on Flow Pattern Around an Impermeable Groyne", *Proceedings of the 3rd Iran Water Resources Management Conference, University of Tabriz, Book of Abstracts, Full paper in CD, 2008.*
39. Hakimzadeh, H., Falconer, R.A. and Uijtwaal, W.S.J. "Turbulence Modelling of Secondary Currents in Rectangular Groyne Fields", *Proceedings of the International Conference on Fluvial Hydraulics, River Flow 2008, Izmir, Turkey, Full paper in CD, 2008.*
40. Hakimzadeh, H. "Numerical Simulation of Oscillatory Shallow-Water Flow Around a Conical Headland Using the K-E and Algebraic Stress Turbulence Models", *Proceedings of the ASME 27th International Conference on Offshore Mechanics and Arctic Engineering, OMAE2008, Estoril, Portugal, Full paper in CD, 2008.*
41. Ghaldarbandi, R. and Hakimzadeh, H. "Numerical Investigation of the Effect of the Cross-shore and Groyne-wall Slopes on Flow Pattern Around an Impermeable Groyne", *Proceedings of the ASME 27th International Conference on Offshore Mechanics and Arctic Engineering, OMAE2008, Estoril, Portugal, Full paper in CD, 2008.*
42. Ghaldarbandi, R. Keshavarz, M.H. and Hakimzadeh, H. "Comparison of Flow Pattern Around Submerged and Non-submerged Groynes Using Three-Dimensional Modelling", *Proceedings of 4th National Congress on Civil Engineering, University of Tehran, Book of Abstracts, Full paper in CD, 2008.*
43. Aghaee, Y. and Hakimzadeh, H. "Three-dimensional Numerical Modeling of Flow Around Cylindrical Piers Using Finite Volume Method", *Proceedings of 4th National Congress on Civil Engineering, University of Tehran, Book of Abstracts, Full paper in CD, 2008.*
44. Anvari, V. and Hakimzadeh, H. "Comparative Investigation of Flow Pattern Around Rectangular Piers Using the Finite difference and Volume Methods", *Proceedings of 4<sup>th</sup> National Congress on Civil Engineering, University of Tehran, Book of Abstracts, Full paper in CD, 2008.*
45. Sarveram, H., Hakimzadeh, H. and Hassanzadeh, Y., "Using the Quasi-Lagrangian Method for Solving Shallow Water Equations", *Proceedings of 4th National Congress on Civil Engineering, University of Tehran, Book of Abstracts, Full paper in CD, 2008.*
46. Babaeyan Amini, A., Hakimzadeh, H., "Numerical Modelling of Contamination Diffusion in Floodways", *Proceedings of the First National Congress on Floodways Engineering, Mayoralty of Mashhad, Book of Abstracts, Full paper in CD, 2008.*
47. Hakimzadeh, H. Hafezizadeh, S., Almaspour, F. and Mahmoudi, J. "Numerical Investigation of Sediment Transport in Aydoghmoush Reservoir", *Proceedings of Sixth Iranian Hydraulic Conference, Shahrekord University, Book of Abstracts, Full paper in CD, 2007.*
48. Hasanzadeh, Y., Hakimzadeh, H. , Delafrouz, H. and Sarveram, H. "Numerical Model Development for Simulation of Flow Pattern Around a Groyne", *Proceedings of Sixth Iranian*



- Hydraulic Conference, Shahrekord University, Book of Abstracts, Full paper in CD, 2007.*
49. Mohammadi, R. and Hakimzadeh, H. "Cross-sectional Shape Effect of Cylindrical Piers on Scour Process", *Proceedings of Third National Congress on Civil Engineering, Tabriz University, Book of Abstracts, Full paper in CD, 2007.*
  50. Delavar, A., Hakimzadeh, H. and Chenaghlou, M.R. "Application of A.N.Ns to Estimate the Reflection and Transmission Coefficients of Pontoon Floating Breakwaters", *Proceedings of Third National Congress on Civil Engineering, Tabriz University, Book of Abstracts, Full paper in CD, 2007.*
  51. Hakimzadeh, H. Hafezizadeh, S. and Mahmoudi, J. "Numerical Simulation of Flow in Aydoghmoush Reservoir", *Proceedings of Third National Congress on Civil Engineering, Tabriz University, Book of Abstracts, Full paper in CD, 2007.*
  52. Hakimzadeh, H. Delafrouz, H. and Sarveram, H. "Investigation and Comparison of Flow Pattern behind Barriers Using the Numerical Models", *Proceedings of Third National Congress on Civil Engineering, Tabriz University, Book of Abstracts, Full paper in CD, 2007.*
  53. Hassanzadeh, Y., Hakimzadeh, H. , Nourani, V. and Sarveram, H. "Numerical Model Development for Simulation of Flow Pattern Around Pier", *Proceedings of Seventh International River Engineering Conference, 7IREC, Book of Abstracts, Full paper in CD, 2007.*
  54. Hakimzadeh, H. "3D Numerical Modelling of Sediment Transport in River Basins ", *Proceedings of 7th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2006", Book of Abstracts.*
  55. Omrani, Sh. and Hakimzadeh, H. "Physical Modelling of Flow Pattern Around Semi-Buried Pipelines ", *Proceedings of 7th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2006", Book of Abstracts, Full paper in CD, 2006.*
  56. Keshavarz, M.H. and Hakimzadeh, H. "Prediction of Flow Pattern Around Inclined Groynes Using Finite Volume Method ", *Proceedings of 7th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2006", Book of Abstracts, Full paper in CD, 2006.*
  57. Hakimzadeh, H. and Sarveram, H. "Numerical Model Development for Simulation of Flow in Rectangular Basins", *Proceedings of 7th International Conference on Civil Engineering, Tarbiat Modares University, Book of Abstracts, Full paper in CD, 2006.*
  58. Mohammadi, R. and Hakimzadeh, H. " Investigation of Scour Around Cylindrical Piers Due to Steady Currents Using a Physical Model", *Proceedings of 7th International Conference on Civil Engineering, Tarbiat Modares University, Book of Abstracts, Full paper in CD, 2006.*
  59. Hossieni, D., Hakimzadeh, H. and Ghiassi, R. "Numerical Modelling of Scour Phenomenon Around Submarine Pipes Due to Current ", *Proceedings of 7th International Conference on Civil Engineering, Tarbiat Modares University, Book of Abstracts, Full paper in CD, 2006.*
  60. Hossieni, D., Hakimzadeh, H. and Ghiassi, R. "Numerical and Experimental Modeling of Scour around Submarine Pipeline due to Currents", *Pipelines 2005, ASCE, pp. 793-802.*
  61. Hossieni, D., Hakimzadeh, H. and Ghiassi, R. "Investigation of Local Scour Phenomenon Around Submarine Pipes Due to Steady Currents Using a Physical Model", *Proceedings of Second National Congress on Civil Engineering, Iran University of Science and Technology, Book of Abstracts, Full paper in CD, 2005.*

62. Hakimzadeh, H. " Siltation Process in Shahid Rajaee Harbour ", *Proceedings of 6<sup>th</sup> International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2004", Book of Abstracts, Full paper in CD.*
63. Hossieni, D., Hakimzadeh, H. and Ghiassi, R. "Scour Below Submarine Due to Currents", *Proceedings of Second International Conference on Scour and Erosion, Nanyang Technological University, Singapore, 2004.*
64. Hakimzadeh, H. and Mahmoodi, J. "Numerical Simulation of Flow in Channels With Sudden Expansion", *Proceedings of 4th National Conference on Hydraulic Engineering, Shiraz University, Volume 1, pp. 249-257, 2003.*
65. Hakimzadeh, H. and Hafezizadeh, S. "Numerical Modelling of secondary Circulation of Water in Rectangular River Harbours", *Proceedings of 4th National Conference on Hydraulic Engineering, Shiraz University, Volume 1, pp. 695-702, 2003.*
66. Hakimzadeh, H. and Pasebani, M. "Numerical Model of Tide Induced Flow in Estuaries", *Proceedings of 4th National Conference on Hydraulic Engineering, Shiraz University, Volume 1, pp. 629-634, 2003.*
67. Hakimzadeh, H. "Numerical Modeling of Tidal Eddies in Shahid Rajaee Harbour Using the K-E Turbulence Model", *Proceedings of 6th International Conference on Civil Engineering, Isfahan University of Technology, Volume 7 , pp.261-268, 2003.*
68. Hakimzadeh, H. and Hafezizadeh, S. "Numerical Model Development for Simulation of Turbulent Flow in River Harbours", *Proceedings of 6th International Conference on Civil Engineering, Isfahan University of Technology, Volume 3 , pp.307-314, 2003.*
69. Hakimzadeh, H. "Numerical Modelling of Turbulent Flow in a Square River Harbour", *Proceeding of Second International Conference on River Basin Management, Las Palmas, Gran Canaria , Spain , pp.77-86, 2003.*
70. Hakimzadeh, H. "Tide Induced Circulation in Shahid Rajaee Harbour", *Proceedings of 5th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2002", Book of Extended Abstracts, pp. 13-16, 2002.*
71. Hakimzadeh, H. "Three Dimensional Numerical Modelling of Tidal Eddies in Coastal Basins", *Proceedings of 5th International Conference on Hydroinformatics, Cardiff, UK, pp. 150-155, 2002.*
72. Hakimzadeh, H. "Numerical Simulation of Salinity in Shahid Madani Reservoir", *Proceedings of 4th Conference on Dam, Construction, Design, Operation and Maintenance. Book of Abstracts, pp. 23 (in persian), 2001.*
73. Hakimzadeh, H. "Simulation of Circulation of Water in River Harbours Using the Zero-Equation Turbulence Model", *Proceedings of 3th National Conference on Hydraulic Engineering, Tehran University, pp. 367-374, 2001.*
74. Hakimzadeh, H. "Numerical Modelling of Cavity Flow in a Square Harbour Using the k-e, Turbulence Model", *Proceedings of International Conference on Hydraulics Structures, Shahid Bahonar University of Kerman, Volume 3, pp. 31-40, 2001.*
75. Hakimzadeh, H. "Turbulence Modelling of Three Dimensional Flow in Rectangular Harbours", *Proceedings of 4th International Conference on Coasts, Ports & Marine Structures, ICOPMAS "2000" Book of Abstracts, pp. 47-48, 2000.*

76. Hakimzadeh, H. "Three Dimensional Modelling of Tidal Flow in Rectangular Harbours with Large Aspect Ratios", *Proceedings of 5th International Conference on Civil Engineering, Ferdowsi University of Mashhad, Mashhad, Iran, 2000.*
  77. Hakimzadeh, H. "Numerical Model Study of Flow and Water Quality Constituents in Shahid Madani Reservoir", *Proceedings of 5th International Conference on Civil Engineering, Ferdowsi University of Mashhad, Mashhad, Iran, 2000.*
  78. Hakimzadeh, H. "Numerical Modelling of Tidal Eddies in Harbours Using the Algebraic Stress Turbulence Model", *Proceedings of 3rd International Conference on Coasts, Ports & Marine Structures, ICOPMAS "98" Volume 1, pp. 252-260, 1998.*
  79. Stamou, A.I., Falconer, R.A., Hakimzadeh, H. and Pipilis, K.G., "Optimisation of the Design of Marinas with Mathematical Models", *Proceedings of Third National Conference on Management of Water Resources in Islands and Coastal Waters, Syros, Greece, pp. 1-9 (in Greek). 1997.*
  80. Hakimzadeh, H. and Falconer, R.A. "Turbulence Modelling of Secondary Tide Induced Circulation in Rectangular Harbours", *Proceedings of 27th IAHR Congress, ed. Sam S.Y. Wang, ASCE Publications, Volume 1, pp. 785-790, 10-15 August 1997.*
  81. Falconer, R.A. and Hakimzadeh, H. "Numerical Modelling of Secondary Tide Induced Circulation in Rectangular Harbours with Large Aspect Ratios", *Proceedings of Third International Conference on Planning, Design and Operation of Marinas, ed. W.R. Blain, Computational Mechanics Publications, pp. 109-118, 9-11 May 1995.*
  82. Hakimzadeh, H. "Tide Induced Circulation in Rectangular Harbour", *Proceedings of Third Iranian Civil Engineering Seminar in UK, UMIST, Manchester, UK, 17-18 December 1995.*
- 

### Technical Reports:

1. Hakimzadeh, H., (2008), "Numerical Investigation of Flow Pattern Around Groynes", Sahand University of Technology, Tabriz, Iran.
2. Hakimzadeh, H., Hafezizadeh, S., Almaspour, F. and Mahmoudi, J. (2007), "Numerical Simulation of Flow and Sediment Transport in Aydoghmoush Reservoir", Funded by Regional Water Organization of Eastern Azarbaijan, Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
3. Hakimzadeh, H., (2005), "3D Numerical Simulation of Flow and Sediment Transport in River Harbours", Sahand University of Technology, Tabriz, Iran.
4. Hakimzadeh, H., (2003), "Tide Induced Circulation in Shahid Rajaei Harbour", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
5. Hakimzadeh, H., (2002), "Numerical Simulation of Turbulent Flow in Square Harbours Using the Reynolds Stress Model", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.

6. Hakimzadeh, H., (2000), "Numerical Model Study of Flow and Water Quality Constituents in Shahid Madani Reservoir", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
7. Falconer, R.A. and Hakimzadeh, H., (1997), "Numerical Model Study of Flow and Water Quality Constituents in Blithfield and Chelmarsh Reservoirs", Report in Civil and Environmental Engineering Department, Bradford University, Bradford, U.K.

### Supervised Ph.D Theses:

1. Aghaee , Y. (2014), "Investigation into Local Scour around Bridge Piers with Variable Section", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
2. Kardan, N. (2014), "Experimental and Numerical Investigation into the Effects of Combined Models of Berm and Slot to Control Local Scour around Bridge Piers", (Joint Supervision with Prof. Y. Hassanzadeh), Report in Faculty of Civil Engineering, Tabriz University, Tabriz, Iran.
3. Mahmoudi, A. (2014), "Development of the Modified Smoothed Particle Hydrodynamic Model to Investigate the Performance of a Trapezoidal Submerged Breakwater", (Joint Supervision with Dr. M.J. Ketabdari), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
4. Soleiman Beygi, N. (2013), "Three Dimensional Modelling of Flood Flow in Reservoirs Using Finite Volume Method", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
5. Babaeian Amini, A. (2011), "Numerical and Experimental Evaluation of Earth Dam Breach", (Joint Supervision with Dr. V. Nourani), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.

### Supervised M.sc. Theses:

1. Kabiri, A, (2015), "Numerical Investigation into Effect of Floating Breakwater Geometries on Wave Transition Coefficient", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
2. Bozorgi Govabari, A, (2015), "Investigation on Equilibrium and Stability of the Amirkabir Semi-Submersible Oil Rig", (Joint Supervision with Prof. M.H. Sedaaghi, Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
3. Khatibi, S.M, (2015), "An Investigation into Sedimentation in New Constructed Harbours in South of Iran; Case Study: Rodik Harbour", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
4. Mohammadnezhad, H, (2015), "Numerical Study of Wave and Current Induced

- Sedimentation in Anzali Harbour with Respect to Developed Breakwaters", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
5. Mossahebi Mohammadi, M., (2014), "Investigation of Flow Separation around Piggyback Pipelines and Reynolds Number Effect on Flow Pattern", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  6. Mohammadi, A., (2014), "Experimental and Numerical Investigation into Scour Process around Offshore Pipelines Using an Impermeable Longitudinal Blade beneath the Pipe Due to Steady Flow", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  7. Tohidi, H.R., (2013), "Experimental and Numerical Investigation into Local Scour Process around the Piers with Boundary Fitted by Velocity Profiles Due to Steady Flow", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  8. Khazaei, M., (2013), " Prediction of Oil Spill in Coastal Regions of Caspian Sea Due to Drilling of Amirkabir Platform", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  9. Azari, N., (2011), "Experimental and Numerical Investigation of the Effect of Groyne-Wall Slopes on Local Scour Due to Steady Flow", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  10. Mehrzad, R., (2011), "Experimental and Numerical Investigation of the Effects of Slotted Conical Shaped Pier on Local Scour Due to Steady Flow", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  11. Imani Shams Abad, S., (2011), "Experimental Investigation of Water Level Effect on Irregular Wave Reflection from Statically Stable Berm Breakwater", (Joint Supervision with Mr. P.Aghtouman, Advisor: Dr. M. Kheirkhah), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  12. Arshad Shabkhaneh, B., (2011), "Investigation of Flow Pattern around Parallel Offshore Pipelines Due to Steady Currents Using the Physical and Numerical Models", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  13. Pourahmadi Cefat Arabani, M., (2011), "Experimental and Numerical Investigation of Local Scour around Conical and Pyramidal Piers", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  14. Miralizadeh Orang, S.M.R., (2010), "Investigation of Local Scour Process around Submarine Pipelines with Respect to Submerged Impermeable Plate Using the Physical Models", (Advisor), Report in Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.
  15. Tahaei Yaghoubi, S., (2010), "Oil Pollution Dispersion in Marine Environment, A Case Study of the Caspian Sea", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  16. Kazemi, M.A., (2010), "Numerical Investigation of Wave Induced Current in

- Amirabad Harbour", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
17. Mahmoodi, A., (2009), "Investigation of the Reinforced Concrete Deterioration in Severe Corrosive Marine Environment According to its Position with Respect to Sea Level" , (Joint Supervision with Dr.H.Afshin), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  18. Arshadi Abyaneh, M., (2008), "Experimental Investigation of Irregular Wave Transmission from Berm Breakwaters", (Joint Supervision with Mr. P. Aghtouman), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  19. Anvari, V., (2008), "Numerical Investigation of Flow Pattern Around Cylindrical Piers with Spindly Cross-Section", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  20. Besharati, H., (2008), "Numerical Simulation of Flow Pattern Around Conical Piers Using the K-E Turbulence Models", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  21. Ayari, S., (2008), "Investigation of the Shapes of Piers on Flow Pattern Using the Fluent Software", (Joint Supervision with Dr. Y. Hassanzadeh), Report in Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.
  22. Aghaee Shalmani, Y., (2007), "Numerical Modelling of Effect of Time on the Scour Process Around Cylindrical Piers", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  23. Ghaldarbandi, R., (2007), "Numerical Simulation of the Effect of the Cross-Sectional Bed and Groyne-Wall Slopes on Flow Pattern", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  24. Delavar, A., (2007), "Estimation of the Reflection and Transmission Coefficients of Pontoon Floating Breakwaters Using Artificial Neural Networks and Statistical Models", (Joint Supervision with Dr. M.R. Chenaghlou), Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  25. Keshavarz, M.H., (2007), "Numerical Investigation of Flow Pattern Around Attracting Groynes in Straight Channels Using the Fluent Software", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  26. Omrani, S., (2007), "Physical and Numerical Investigation of Flow Pattern around Semi-buried Pipelines Due to Steady Currents", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  27. Sarveram H., (2006), "Numerical Model Development for Simulation of Flow Pattern Around Pier", (Joint Supervision with Dr. Y. Hassanzadeh), Report in Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.
  28. Mohammadi, R., (2006), "Investigation of Local Scour Around Cylindrical Piers Due to Steady Currents Using a Physical Model", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  29. Forouzandeh, N., (2005), "Examine the Efficiency of Floating Breakwaters by

- Using Physical Models", (Joint Supervision with Dr. A. Karami Khaniki, Advisor: Mr. P. Aghtouman) Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
30. Hossieni, D., (2005), "Investigation of Local Scour around Offshore Pipelines Due to Steady Currents Using the Numerical and Physical Models", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  31. Mahmoudi M., J., (2003), "Two Dimensional Depth Averaged Numerical Model of Flow and Sediment Transport in Reservoirs", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  32. Shahverdi., A, (2003), "Numerical Modeling of Wind Indaced Currents", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  33. Hafezizadeh, S., (2002), "Numerical Modeling of 2-D Flow in River Harbour", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  34. Jenareh, B., (2002), "Numerical Modeling of Sedimentation in Dam Reservoirs", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  35. Pasebani, M., (2002), "Numerical Modeling of Tidal Currents in Estuaries", Report in Faculty of Civil Engineering, Sahand University of Technology, Tabriz, Iran.
  36. Samadzadeh Ghazijahani, A. (2000), "Investigation of Mechanism of Storage Reservoir Using the Finite Difference Method", (Advisor), Report in Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.
  37. Faazeli Paayedaar, R. (1999), "Analysis of Water Hammer Phenomenon in a Pump Station Using the Characteristic Method", (Advisor), Report in Faculty of Civil Engineering, University of Tabriz, Tabriz, Iran.

[Back to Academic Staff](#) | [Back to top](#)

Design & Maintenance: [Ali Charchi](#)  
Copyright 2005, Sahand University of Technology, All rights reserved.