

# Dr. ALI PAK

Date of Birth: 1958

Place of Birth: Tehran, Iran

## **EDUCATION**

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- Ph.D. in Geotechnical Engineering, 1997, Department of Civil and Environmental Engineering, The University of Alberta, Edmonton, Canada
- M.Sc. in Soil Mechanics and Foundation Engineering, 1989, Amir Kabir University of Technology, Tehran, Iran
- B.Sc. in Civil Engineering, 1984, Iran University of Science and Technology, Tehran, Iran

## **EMPLOYMENT HISTORY**

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2009-present	Professor, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran
2005-2009	Associate professor, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran
1997-2005	Assistant professor, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran
1996-1997	Software developer, PISA Inc., Edmonton, Canada
1991-1996	Ph.D. student in Geotechnical Engineering, Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Canada
1990-1991	Lecturer, Sharif University of Technology, Tehran, Iran
1990-1991	Design Engineer, Sazeh Pardazi Consulting Engineering Company, Tehran
1989-1990	Lecturer, Amir Kabir University of Technology, Tehran
1989-1990	Design Engineer, Pooya Tarh Consultants, Tehran

1987-1989	M.Sc. in Soil Mechanics and Foundation Engineering, Amir Kabir University
1986-1987	Design Engineer, SANO Consulting Engineering Company, Tehran
1984-1986	Project Engineer, Ports and Shipping Organization, Tehran
1977-1984	B.Sc. in civil Engineering, Iran University of Science and Technology, Tehran

## **TEACHING EXPERIENCES**

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### **Graduate Courses:**

- Numerical Methods in Geotechnical Engineering
- Advanced Computational Geomechanics
- Environmental Geotechnics
- Site Investigation and Field Monitoring

### **Undergraduate Courses:**

- Foundation Engineering
- Soil Mechanics
- Retaining Structures
- Engineering Analysis
- Mechanics of Materials I and II
- Fluid Mechanics
- Soil Mechanics Laboratory

## **RESEARCH INTERESTS**

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- Computational Geomechanics
- Liquefaction Modeling
- Hydraulic Fracturing
- Petroleum Geomechanics
- Ground Improvement
- Environmental Geotechnics

## **RESEARCH PROJECTS**

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1. Numerical Analysis of Stress-Deformation in Earth Dams under Construction, considering Compressibility of Pore Water Pressures , M.Sc. thesis of M. Heydari, Department of Civil Engineering, Sharif University of Technology, 1998
2. Numerical Modeling of Initiation of Hydraulic Fracturing in Two-phase Cohesive Materials, M.Sc. thesis of A.Nouri, Department of Civil Engineering, Sharif University of Technology, 1998
3. Analysis of Landfill Leachate Volume and its Effects on the Design of Linear System, M.Sc. thesis of H. Sotoodeh Manesh, Department of Civil Engineering, Sharif University of Technology, 1999
4. Nonlinear Analysis of Pile Behavior Subjected to Lateral Loads, M.Sc. thesis of M. Ebrahimi, Department of Civil Engineering, Sharif University of Technology, 1999
5. Nonlinear Analysis of Interaction Between Displacements and Pore Pressures in a Medium Saturated with Compressible Fluid, M.Sc. thesis of Lotfi Azad, Department of Civil Engineering, Sharif University of Technology, 1999
6. Numerical Analysis of the Effect of non-linear Compressibility of Pore Fluid on the Behavior of Unsaturated Core of Earth Dams, M.Sc. thesis of M. Zamani Nezhad, Department of Civil Engineering, Sharif University of Technology, 2000
7. Classification of Industrial Solid Waste of Guilan Province for landfilling, Ministry of Industries and Mines, 2001
8. Numerical Modeling of Liquefaction Phenomenon Using a Fully Coupled Dynamic Approach, M.Sc. thesis of Hadi Shahir, Department of Civil Engineering, Sharif University of Technology, 2001
9. Numerical Modeling of Earth Dam behavior under construction, considering the core in unsaturated State, Water Resources Management Organization, Ministry of Energy, 2002
10. Numerical Analysis of Interaction between Flexible Retaining Wall and Sand Backfill considering the Effect of Water Table, M.Sc. thesis research of M.R. Shakeri, Department of Civil Engineering, Sharif University of Technology, 2002
11. Numerical Simulation of Reinforced Embankments Constructed on Soft Soil, M.Sc. thesis of A. Sharghi, Department of Civil Engineering, Sharif University of Technology, 2002
12. Evaluation of Liquefaction Phenomenon in Dam Foundation by Numerical Modeling, Water Resources Management Organization, Ministry of Energy, 2003
13. Study of the Performance of Liner Systems to Seal the Foundation of Copper Extraction Site by Heap Leaching Method, M.Sc thesis of H. Ghiabi, Department of Civil Engineering, Sharif University of Technology, 2003
14. Numerical Modeling of Liquefaction Using a Two-Surface Critical State Plasticity Model for Sands, M.Sc. thesis of M. Taiebat, Department of Civil Engineering, Sharif University of Technology, 2003
15. Study the effects of Applying Large Strain Formulation in the Numerical Analysis of Single – Phase soil media, M.Sc. thesis of M. Ghafghazi, Department of Civil Engineering, Sharif University of Technology, 2004
16. Solar Energy's Effects on Mechanical Properties of Tailings and Stability of Tailing Dams, M.Sc. thesis of Abdolreza Osouli, Department of Civil Engineering, Sharif University of Technology, 2004
17. Numerical Modeling of Soil Improvement by Dynamic Compaction, M.Sc. thesis of A. Ghassemi, Department of Civil Engineering, Sharif University of Technology, 2004
18. Numerical Study of the Interaction Between Flexible Retaining Walls and Saturated Clayey Backfills in Drained and Undrained Conditions, M.Sc. Thesis of A. BazrAfshan, Department of Civil Engineering, Sharif University of Technology, 2005

19. Application of a Critical State Plasticity Model with Fabric Effects for Modeling the Behavior of Sandy Soils Under Static and Dynamic Loads, M.Sc. Thesis of A. Nabizadeh, Department of Civil Engineering, Sharif University of Technology, 2005
20. Modeling of Hardening and Softening Behavior of Rock Masses under Shear using Multilaminate Model. Ph.D. thesis of R. Mahin Roosta, (Advisor), Department of Civil Engineering, Sharif University of Technology, 2005
21. Bearing Capacity Analysis of Rammed Aggregate Piers (Short Compacted Stone Columns) by Numerical Modeling, M.Sc. Thesis of M. Sharafinia, Department of Civil Engineering, Sharif University of Technology, 2006
22. Study and Analysis of Seepage Through Tailings Dams using Numerical Modeling, M.Sc. Thesis of M. Nabipour, Department of Civil Engineering, Sharif University of Technology, 2006
23. Numerical Modeling of Drained and Undrained Behavior of Sands Using NORSAND, M.Sc. Thesis of F. Eskandari, Department of Civil Engineering, Sharif University of Technology, 2006
24. Coupled Numerical Modeling of Hydraulic Fracture Propagation in Dry and Saturated Soils Using EFG Meshless Method, Ph.D. Thesis of M. Norouz Oliaei, Department of Civil Engineering, Sharif University of Technology, 2007
25. Numerical Modeling of Self-Weight Consolidation and Desiccation of Ultra Soft Soils, M.Sc. Thesis of S. Samimi, Department of Civil Engineering, Sharif University of Technology, 2007
26. Experimental Investigation of Dynamic Characteristics of Clay – Cement Mixture using Bender Element Apparatus, M.Sc. Thesis of M. Bahador, Department of Civil Engineering, Sharif University of Technology, 2007
27. Comparison the Performance of Constitutive Models in Numerical Simulation of the Behavior of Unsaturated Soils, M. Sc. Thesis of M. Zarin far, Department of Civil Engineering, Sharif University of Technology, 2007
28. Analytical and Numerical Analysis of Saturated and Unsaturated Soils under Thermo-hydro-mechanical Conditions, M.Sc. Thesis of F. Arfaei Malekzadeh, Department of Civil Engineering, Sharif University of Technology, 2008
29. Experimental Investigation of Performance of Geotextiles in Filtration and Drainage of Dams, M.Sc. Thesis of Z. Zahmatkesh, Department of Civil Engineering, Sharif University of Technology, 2008
30. Study of Bearing Capacity and Settlement of Semi-deep Foundations (Rammed Aggregate Piers) using Numerical Modeling, M.Sc. Thesis of S. Dashtara, Department of Civil Engineering, Sharif University of Technology, 2009
31. Study of the effect of Densification on Improvement of Saturated Sand Deposits for Mitigating Liquefaction based on Performance levels of Shallow Foundation, Ph.D. Thesis of H. Shahir, Department of Civil Engineering, Sharif University of Technology, 2009
32. Analysis of Dynamic Behavior of Piles in liquefiable Soils, M.Sc. Thesis of A. Rahmani, Department of Civil Engineering, Sharif University of Technology, 2009
33. Numerical Modeling of Dynamic Compaction Operations in Sandy Soils for Proposing Print Spacing Pattern, M.Sc. Thesis of G. Jahangiri, Department of Civil Engineering, Sharif University of Technology, 2009
34. Study of the Behavior of Pile Groups in Clayey Soils Subjected to Lateral Loads, M.Sc. Thesis of A. Koohsari, Department of Civil Engineering, Sharif University of Technology, 2009

35. Comparison of the Performance of Different Boundary Conditions in Numerical Analysis of Dynamic Behavior of Earth Dams, M.Sc. Thesis of M. Emadi, Department of Civil Engineering, Sharif University of Technology, 2009
36. Dredging Code of Practice based on Environmental Considerations in Iran, Research Project for Transportation Research Center, Ministry of Roads and Transportations, Iran, 2009
37. Numerical Modeling of Ground Displacement due to Liquefaction-induced Lateral Spreading, M.Sc. thesis of Omid Ghassemi Fare, Department of Civil Engineering, Sharif University of Technology, 2010
38. Numerical Study of the effectiveness of Stone Columns on Increasing Bearing Capacity of the Ground, M.Sc. thesis of Ali Akbar Golestani, Department of Civil Engineering, Sharif University of Technology, 2010
39. Experimental Study of the Effect of Zeolite in bottom Clay Liner of Landfills for Absorbing Heavy Metals from Leachate, M.Sc. thesis of Seyed Ali Shodjaei, Department of Civil Engineering, Sharif University of Technology, 2010
40. Numerical Study of Laminar and Turbulent Fluid Flow in Fractured Porous Media, M.Sc. thesis of Reza Nayyer, Department of Civil Engineering, Sharif University of Technology, 2010
41. Numerical Modeling of Improvement of Saturated Ground using Dynamic Compaction Method, M.Sc. thesis of Saber Dadizadeh, Department of Civil Engineering, Sharif University of Technology, 2011
42. Applying a Temperature-dependent Constitutive Model for Coupled THM analysis of Saturated Soils, M.Sc. thesis of Kumars Afshari, Department of Civil Engineering, Sharif University of Technology, 2011
43. Modeling of Two-Phase Flow in Porous Media using Lattice-Boltzman Method, M.Sc. thesis of Bahman Sheikh, Department of Civil Engineering, Sharif University of Technology, 2012
44. Numerical Study of Sand Production in Oil Wells, M.Sc. Thesis of Babak Abbasi, Department of Civil Engineering, Sharif University of Technology, 2012
45. Parametric Study of Lateral Spreading Phenomenon in Liquefiable Sand Layers, M.Sc. Thesis of Sahand Seify, Department of Civil Engineering, Sharif University of Technology, 2012
46. Study of the Stability of Rubble Mound Breakwater Armor Units by Numerical Modeling, M.Sc. Thesis of Mohammad Sarfaraz, Department of Civil Engineering, Sharif University of Technology, 2012
47. Study of the Behavior of Circular Tunnel Linings subjected to Seismic Shear Waves, M.Sc. Thesis of Mohammad Motalebnejad, Department of Civil Engineering, Sharif University of Technology, 2012
48. Comparison among Constitutive Models for Numerical Simulation of Liquefaction Phenomenon, M.Sc. Thesis of Mohammad Ali Iranmanesh, Department of Civil Engineering, Sharif University of Technology, 2013
49. Numerical Study of the effects of Soil Lateral Spread on Coastal Structures, M.Sc. Thesis of Mahsa Khosrowjerdi, Department of Civil Engineering, Sharif University of Technology, 2013
50. Experimental and Numerical Study of Hydro-Mechanical Behavior of Saturated Fine – grained Soils Subjected to EKG phenomenon, M.Sc. Thesis of Mohammad Shahsavand, Department of Civil Engineering, Sharif University of Technology, 2013
51. Numerical Analysis of Pile Dynamic Behavior in Liquefiable Layered Soils, M.Sc. Thesis of Omid Ghaffari-pour, Department of Civil Engineering, Sharif University of Technology, 2013
52. Investigating the Effects of the location of Phreatic Line on the Stability of Tailings Dams, M.Sc. Thesis of Nikoo Azimi, Department of Civil Engineering, Sharif University of Technology, 2013

53. Evaluation of efficiency of RK chromodynamic model for simulation of two-fluid flow in porous media, M.Sc. Thesis of Mohammad Sadeghi, Department of Civil Engineering, Sharif University of Technology, 2013
54. Numerical Simulation of the Behavior of Unsaturated Soils Using BBM in Flac Software, M.Sc. Thesis of Hojjat Mohammadi, Department of Civil Engineering, Sharif University of Technology, 2014
55. Numerical Modeling of the Liquefaction-induced Settlement of Shallow Footing Rested on non-Homogeneous sub-soil Strata, M.Sc. Thesis of Peyman Ayoubi, Department of Civil Engineering, Sharif University of Technology, 2014
56. Numerical Modeling of Hydro-fracture Stimulation of Oil/Gas wells using a fully coupled EFG-based analysis of two-phase fluid flow in the deformable reservoir. Ph.D. thesis of Soodeh Samimi, Department of Civil Engineering, Sharif University of Technology, 2014
57. Parametric Study of the behavior of Geosynthetic-Reinforced Soil Walls with Concrete Face using FLAC, M.Sc. Thesis of Amin Selseleh, Department of Civil Engineering, Sharif University of Technology, 2016
58. Study of the Variation of Maximum Shear Modulus of Unsaturated Soils under wetting/drying paths using Bender Element Test, M.Sc. Thesis of Parisa Shahbazan, Department of Civil Engineering, Sharif University of Technology, 2016
59. Numerical Study of the Effects of Silty interbedded layers on Liquefaction of Saturated Sandy Deposits, M.Sc. Thesis of Babak Moghaddam Ranjbaran, Department of Civil Engineering, Sharif University of Technology, 2017
60. Numerical study on the effects of geo-mechanical parameters on hydraulic fracture characteristics in oil reservoirs, M.Sc. Thesis of Navid Chiti, Department of Civil Engineering, Sharif University of Technology, 2017
61. Evaluating the causes of Mont Polley tailings dam failure using numerical modeling, M.Sc. Thesis of Kasra Salemi, Department of Civil Engineering, Sharif University of Technology, 2017
62. Analytical Solution for partial differential equations governing 1D. Thermo-Hydro-Mechanical problems, M.Sc. Thesis of Davoud Yazdani Cherati, Department of Civil Engineering, Sharif University of Technology, 2017
63. Numerical Modeling of Liquefaction-induced Settlement of Free field and comparison of the results with empirical methods, M.Sc. thesis of Habibollah Sadeghi, Department of Civil Engineering, Sharif University of Technology, 2018
64. Prediction of Sand Production Phenomenon in Wells using Finite Element Method, M.Sc. Thesis of Majid Fetrati, Department of Civil Engineering, Sharif University of Technology, 2018
65. Numerical Study of Rock fill Dams Deformation (Case Study: Masjid Soleyman Dam), M.Sc. Thesis of Amir Barati nia, Department of Civil Engineering, Sharif University of Technology, 2018
66. Numerical Modeling of the Performance of Deep Underground Geothermal Energy Reservoirs, M.Sc. Thesis, Seyed Adel Ahmadi Hosseini, Department of Civil Engineering, Sharif University of Technology, 2019
67. Numerical Evaluation of the Influence of Hydro-Mechanical Factors on the Conventional Methods of Hydraulic Fracture Analysis in Oil Reservoirs, M.Sc. Thesis, Mostafa Salighehdoost, Department of Civil Engineering, Sharif University of Technology, 2019
68. Numerical Study of the Stability of Cubic Armor Units of Low-crested Breakwaters using combined SPH and DEM methods, Ph.D. dissertation of Mohammad Sarfaraz, Department of Civil Engineering, Sharif University of Technology, 2019
69. Integrated Geomechanical Simulation of Casing Collapse- Experimental investigations and Numerical Modelings, Ph.D. thesis of S. Reza Taheri, Department of Civil Engineering, Sharif University of Technology, 2020

70. Numerical Simulation of Hydraulic Fracturing in Porous Media considering Two-Phase Flow and Thermal Effects using EFG Mesh-less Method, Ph.D. thesis of Mohammad Ali Iranmanesh, Department of Civil Engineering, Sharif University of Technology, 2020
71. Fully Coupled Numerical Modeling of CO<sub>2</sub> Sequestration in Deep Underground Formations using EFG Method, M.Sc. Thesis of Khatereh Roughangar, Department of Civil Engineering, Sharif University of Technology, 2020
72. Investigation of The Effects of Microbially-Induced Calcium Carbonate Precipitation on the Soil-Water Retention Curve and Changes of Small Strain Shear Modulus of Unsaturated Sand on Drying Path, M.Sc. Thesis, Yashar Jahanbakhsh, Department of Civil Engineering, Sharif University of Technology, 2020
73. Numerical Simulation of Thermo-hydro-mechanical (THM) Behavior of Deep Geothermal Reservoirs, M.Sc. Thesis, Mohammad Reza Bana Sharifian, Department of Civil Engineering, Sharif University of Technology, 2020
74. Evaluation of considering Hydro-mechanical and Geo-mechanical Parameters on the Ordinary Methods of Hydraulic Fracturing Analysis in Oil Reservoirs, M.Sc. Thesis, Morteza Esfandiari, Department of Civil Engineering, Sharif University of Technology, 2020
75. Numerical Modeling of Tri-axial Experiments on Rockfill Materials using Discrete Element Method , M.Sc. Thesis, Sadegh Hajian, Department of Civil Engineering, Sharif University of Technology, 2020

## **SOFTWARE APPLICATION**

I have carried out the above- mentioned research projects with my graduate students using the following softwares:

- PLAXIS
- FLAC
- ABAQUS
- ANSYS
- COMSOL
- PISA
- PFC
- OPENSEES
- GEOSTUDIO (SIGMA/W, SEEP/W, CTRAN/W)
- Slope Stability Softwares

I have also developed in-house codes for various research projects using Finite Difference Method (FDM), Finite Element Method (FEM), Lattice Boltzmann Method (LBM), Discrete Element Method (DEM), and Element Free Galerkin (EFG) Method.

## **HONORS AND AWARDS**

1. Distinguished Author Award (Persian Section), Sharif University of Technology, 2016
2. Teaching excellence Award, Sharif University of Technology, 2015
3. Teaching excellence Award, Sharif University of Technology, 2011
4. Omar Khayyam Research Excellence Award, Scientia Iranica Journal, Sharif University of Technology, 2009
5. Teaching excellence Award, Sharif University of Technology, 2003
6. Teaching excellence Award, Sharif University of Technology, 2000
7. J. Gordin Kaplan Graduate Student Award from the University of Alberta, 1996
8. Ph.D. Scholarship Award from Ministry of Culture and Higher Education of Iran, 1992

### **CONSULTING EXPERIENCES**

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1. Design of Tailing Ponds for Gole-Gohar Iron Ore Company
2. Project Manager of Marine Spatial Planning (MSP) of the Hormuzgan province marine territories
3. Project Manager of Scrutinizing of Integrated Coastal Zone management (ICZM) plan for Hormuzgan province
4. Project Manager of Coastal Bypass Road Project of Ramsar
5. Project Manager of "Parsian Industrial Port" Design
6. Project Manager of "Kish Island Coastal Zone and Environment Management Study"
7. Project Manager of "Integrated Coastal Zone Management Studies in Iran", phase I
8. Project Manager of 10 Small Hydroelectric Power Plants
9. Project Manager of Bahmanshir upstream and downstream Dams
10. Project Manager of "Karoun Waterway: Training and Navigation"
11. Project Manager of "Qumrood River Training"
12. Project Manager of Assaluyeh Petrochemical Port (conceptual design phase)
13. Project Manager for increasing the capacity of Shahid Rajaei port for Panamax and Cape size ships

14. Design engineer for QUAEN cement factory project (heavy stone crusher and connected buildings)

## **PUBLICATIONS**

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1. **Ali Pak** and D.H. Chan, (1996): *A Fully Implicit Thermal-hydro-mechanical Fracture Finite Element Model for Modeling Hydraulic Fracturing in Oil sand*, Proceedings of 47<sup>th</sup>ATM, Petroleum Society of CIM, Calgary, Alberta, June 10-12, 1996
2. **Ali Pak**, (1997): *Numerical Modelling of Hydraulic Fracturing*, Ph.D. Thesis, Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, Canada, 1997
3. D.H. Chan and **Ali Pak**, (1998): *Numerical Modelling of Hydraulic Fracturing in a Porous Medium*, International Conference on Geomechanics/ Ground Control in Mining and Underground Construction, Wollongong, Australia, 1998
4. **Ali Pak** and a. Sheikh Ansawri, (1998): *Role and Importance of Environmental issues in Dredging Projects*, 3<sup>rd</sup>International Conference on Ports and Marine Structures, Tehran, Iran, 1998 (in Persian)
5. **Ali Pak**, S.A. Sadrnezhad, and A. Nouri, (1999): *Influence of the Effective Initial Principal Stresses on Hydraulic Fracture in Soils*, Scientia Iranica, Vol.6, No. 3&4 , Fall 1999
6. **Ali Pak**, and I. Ashayeri, (2000): *A neural Network Based Model for Evaluation of Permeability of Cohesionless Soils*, 5<sup>th</sup>Int. Conference on Civil Engineering, Mashad, Iran, 8-10 May, 2000
7. **Ali Pak**, and F. Lotfi Azad, (2000): *Interaction between Pore Pressures and Deformations in Saturated Porous Media with Compressible Solid and Fluid Phases*, 5<sup>th</sup>Int. Conference on Civil Engineering, Mashad, Iran, 8-10 May, 2000 (in Persian)
8. **Ali Pak**, and M. Ebrahimi, (2000): *The Effects of Layered Subsoil on P-Y Curves for Analysis of Piles under Lateral Loads*, 5<sup>th</sup>Int. Conference on Civil Engineering, Mashad, Iran, 8-10 May, 2000 (in Persian)
9. **Ali Pak**, (2000): *Management of the Dredged Materials from the viewpoint of Environmental Geotechnics*, 4<sup>th</sup> Int. Conference on Coasts, Ports and Marine Structures, Bandar Abbas, Iran, (In Persian)
10. S.M. Mousavi, B. Gatmiri , **Ali Pak**, and M.H. El Naggar (2000): *Analysis of Land Subsidence Due to Groundwater Withdrawal Considering Unsaturated Layers*, Proc. 53<sup>rd</sup> Canadian Geotechnical Conference, Montreal, Quebec, Oct. 15-18, 2000, Vol.2, pp. 1153-1160
11. A. Nouri and **Ali Pak** (2002): *Numerical Evaluation of Hydraulic Fracturing Pressure in a Two-Phase Porous Medium*, International Journal of Engineering, Vol.15, No.2, pp.125-134

12. **Ali Pak**, and M. N. Oliaei (2001): *Dredging Projects in Iran and Environmental management of the dredged Materials*, Proceeding of the 5<sup>th</sup> International Conference on Coasts, Ports, and Marine Structures, Ramsar, Iran
13. **Ali Pak**, and I. Ashayeri (2002): *Predicting Compacted Clay's Hydraulic Conductivity by Neural Networks*, Proceeding of the 2nd Canadian Specialty Conference on Computer Applications in Geotechnique, Winnipeg, Canada
14. A. Komakpanah, A. Nouri, **Ali Pak**, H. Vaziri, and M.R. Islam (2002): *Evaluation of Hydraulic Fracturing Pressure in a Porous Medium by using Finite Element Method*, Energy Sources (Part A), vol.24, no.8, pp. 715-724
15. **Ali Pak**, and H. Shahir (2002): *Numerical Modeling of Dynamic Consolidation in Saturated Soils*, Proceeding of the 1<sup>st</sup> Ground Improvement Conference", Tehran, Iran, (In Persian)
16. **Ali Pak**, and I. Ashayeri (2002): *Evaluation of the Hydraulic Conductivity Coefficient for Compacted Clay Liners*, Proceeding of the 1<sup>st</sup> Ground Improvement Conference", Tehran, Iran, (In Persian)
17. K. Moradi Hersini, and **A.Pak** (2002): *Site selection for engineered Sanitary landfills in Guilan Province using regional Screening Method*, Proceeding of the 6<sup>th</sup> conference of the Geological Society of Iran, Kerman, (In Persian)
18. H. Shahir and **Ali Pak** (2002): *Numerical Modeling of Liquefaction Phenomenon in the foundation of Dams*, Proceeding of the 3<sup>rd</sup> International Conference on Geotechnical Engineering and Soil Mechanics of Iran, Tehran, (In Persian)
19. H. Shahir, **Ali Pak**, and D. Chan (2002): *Evaluation of Liquefaction Potential Using a Fully Coupled Dynamic Numerical Approach*, Proceeding of the 55<sup>th</sup> Canadian Geotechnical Conference, Niagara Falls, Canada
20. **Ali Pak** and H. Naghavi (2002): *Study of the Dredging Alternatives for Karoun River for Inland Navigation*, Proceeding of the 6<sup>th</sup> International Conference on River Engineering, Ahvaz, Iran, (In Persian)
21. **Ali Pak**, and A. Sharghi (2003): *Numerical Analysis of Geotextile Reinforced Silty Sand Embankment on Soft Clay*, Proceeding of the 56<sup>th</sup> Canadian Geotechnical Conference, Winnipeg, Canada
22. **Ali Pak**, and A. Sharghi (2003): *The effect of Geometry on the Behavior of Geotextile reinforced Silty Sand Embankments*, Proceeding of the International Workshop on Geotechnics of Soft Soils, Holland
23. **Ali Pak** and M.R. Shakeri (2003): *Analysis of the flexible Retaining Wall Behavior Considering its interaction with Non-cohesive backfill*, Proceeding of the 6<sup>th</sup> International Conference on Civil Engineering, Isfahan, Iran, (In Persian)
24. **Ali Pak**, and M. Zamani-Nejad (2003): *Stress-Deformation Analysis in Unsaturated Soils considering the nonlinear behavior of pore fluid*, Proceeding of the National Conference on Hydropower Plants of Iran", Tehran, (In Persian)

25. **Ali Pak**, and H. Ghiabi (2004) : *Evaluation of the Performances of the Impermeable Liner Systems for Prevention of Environmental Damages of Copper Extraction by Heap Leaching Method*, 1<sup>st</sup> National Congress on Civil Engineering, Sharif University of Technology, Tehran, Iran, (In Persian)

26. **Ali Pak** and M. Taiebat (2004):*A fully Coupled Dynamic Analysis of VELACS Experiment No.1 Using a Critical State Two-Surface Plasticity Model for Sand*, Proceedings of the 13<sup>th</sup> World Conference on Earthquake Engineering, Vancouver, Canada

27. M. Taiebat and **Ali Pak**, (2004): *Application of a Two-Surface Critical State Plastic Constitutive Model for Liquefaction Modeling*, 1<sup>st</sup> National Congress on Civil Engineering, Sharif University of Technology, Tehran, Iran, (In Persian)

28. S.S. Yasrobi, **Ali Pak**, and R. Hooshmandan, (2004): *Numerical modeling of Dynamic Compaction in Granular Soils*, 1<sup>st</sup> National Congress on Civil Engineering, Sharif University of Technology, Tehran, Iran, (In Persian)

29. **A.Pak** and D.H. Chan (2004): *A fully Implicit Single Phase T-H-M Fracture Model for Modelling Hydraulic Fracturing in Oil Sands*, Journal of Canadian Petroleum Technology, Vol. 43, No.6, pp.35-44

30. M. Taiebat and **Ali Pak** (2004): *Liquefaction Modeling Using a Fully Coupled Dynamic Numerical Approach and a Two-Surface Critical State Plasticity Model for Sands*, Proceedings of the International Conference on Geotechnical Engineering, Beirut

31. H. Ghiabi and **Ali Pak** (2004): *Numerical Study of Effective Factors on the Chemical Transport through Composite Liners*, Proceedings of Numerical Models in Geomechanics-NUMOG IX- Pande & Pietruszczak (eds.), pp.375-380

32. **A.Pak** (2004): *Integrated Coastal Zone Management, Necessities, World Status, and the Actions Taken in Iran*, Proc. of the Sixth International Conference on Coasts, Ports, and Marine Structures (ICOPMAS), Tehran (In Persian)

33. **Ali Pak**, H. Shahir, and A. Ghassemi (2005): *Behavior of Dry and Saturated Soils under Impact Load during Dynamic Compaction*, Proceedings of 16ICSMGE (16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering), Osaka, Japan

34. A. Azad, S.S. Yasrobi, **Ali Pak**, (2005): *Active Lateral Earth Pressure Distribution during Earthquake*, Proceeding of the 58<sup>th</sup> Canadian Geotechnical Conference, GEOSASK 2005

35. M.R. Moslemi, M. Vossoughi, **Ali Pak**, M.T. Jafarzadeh (2005): *The Effects of Environmental Factors on Biological Remediation of Petroleum Hydrocarbon Contaminated Soil*, Water and Wastewater, No. 55 (in Persian)

36. R. MahinRoosta, M.H. Sadaghiani, **Ali Pak**, (2005): *Strength Reduction Technique in Stability Analysis of Jointed Rock Slopes*, Int. Journal of Civil Engineering, Vol. 3, No. 3 & 4, pp.152-166

- 37.A. Azad, S.S. Yasrobi, **Ali Pak**, (2005): *Lateral Earth Pressure on Geosynthetic Reinforced Soil Walls during Earthquake*, Proceedings of International Conference on the Use of Geosynthetics in Soil Reinforcement and Dynamics (Sep. 2004), pp. 479-487, Dresden, Germany
38. **Ali Pak**, M. Farajzadeh, F. Majd (2005): *Towards Integrated Coastal Zone Management in Iran*, Proceedings of the 1<sup>st</sup> International Conference on Coastal Zone Management and Engineering, Dubai, UAE
39. R. Mahinroosta, M.H. Sadaghiani, **Ali Pak** and Y. Saleh (2006): *Rock Joint Modeling Using a Visco-plastic Multi-laminate Model at Constant Normal Load Condition*, Journal of Geotechnical and Geological Engineering, vol.24, pp.1449-1468
40. **Ali Pak**, M. Tajrishi, H. Taheri Shahraeini, (2006): *Classification of Industrial Solid Wastes and its importance in Recycling and Selection of Landfill Type*, Sharif Journal of Science and Technology, No.33, pp.55-66 (in Persian)
41. **Ali Pak**, (2006): *Challenges for Establishment of Integrated Coastal Zone Management (ICZM) along Iran's Coastlines*, Proceedings of 7<sup>th</sup> International Conference on Coasts, Ports, and Marine Structures, Tehran (in Persian)
42. **Ali Pak** and A. Nabizadeh (2006): *Application of a Critical State Plasticity Constitutive Model with Fabric Effects*, Proceedings of 7th International Civil Engineering Congress, Tarbiat Modares University, Tehran (in Persian)
43. **Ali Pak** and A. Ghassemi, (2006): *Numerical Modeling of Improvement of Dry and Saturated Soils by Dynamic Compaction*, Proceedings of 7th International Civil Engineering Congress, Tarbiat Modares University, Tehran (in Persian)
44. **Ali Pak** and A. Bazrafshan, (2006): *Study of Interaction between Flexible Retaining Wall and Saturated Clayey Backfill in Undrained Condition*, Proceedings of 7th International Civil Engineering Congress, Tarbiat Modares University, Tehran (in Persian)
45. A. Azad, S.S. Yasrobi, **Ali Pak**, (2006): *Effect of Flexibility of Cover on Dynamic Behavior of Reinforced-Soil Walls*, Proceedings of 7th International Civil Engineering Congress, Tarbiat Modares University, Tehran (in Persian)
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