

## CURRICULUM VITAE

### PERSONAL INFORMATION

Prof. Dr. Mahdi Karkush

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### PERSONAL STATEMENT

**Prof. Mahdi Karkush** is President of Iraqi Scientific Geotechnical Society and Professor of Civil Engineering at the Department of Civil Engineering/University of Baghdad/Iraq. He was born in Babylon Governorate/Al-Shomali in 1973. He received his Ph.D. in Civil Geotechnical Engineering from the University of Baghdad/Iraq in 2008. He pursued his M.Sc. in Civil Structural Engineering from the University of Babylon/Iraq in 1998 and his B.Sc. in Civil Engineering from the University of Babylon/Iraq in 1995. He was appointed at the University of Babylon from 1999 to 2008 and the University of Baghdad from 2008 till now. He has authored over 120 technical scientific publications including 80 peer-reviewed journal papers and about 40 in local and international conferences. He has supervised over 28 of Ph.D. and M.Sc. students. He teaches several subjects at B. Sc., M.Sc., and Ph.D. levels. He is a member of the editorial board of several world scientific journals. His outstanding research works in the fields of Geoenvironmental Engineering, Sustainability in Geotechnical Engineering, Foundation Engineering, and Geomechanics. He is the team director for several projects of soil investigation, topographic surveying and GIS, structural design, and urban planning. Also, he is a fellow of the Iraqi Engineers Association (IEA)/Iraq, International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)/UK, Fulbright scholar/ USA, DAAD scholar/Germany, and Swinburne Scholar/Australia.

### EDUCATION

<b>June 1995</b>	B.Sc., Degree in Civil Engineering from University of Babylon, Babylon-Iraq.
<b>Mar. 1998</b>	M.Sc., Degree in Civil Engineering (Structural Division) from University of Babylon, Babylon-Iraq.
<b>Mar 2008</b>	Ph.D., Degree in Civil Engineering (Geotechnical Division) from University of Baghdad, Baghdad-Iraq.

**Database, Social, and Others****1. Web of Science (WoS)**

<b>Researcher ID</b>	LJK-7085-2024
<b>Profile</b>	<a href="https://www.webofscience.com/wos/author/record/LJK-7085-2024?state=%7B%7D">https://www.webofscience.com/wos/author/record/LJK-7085-2024?state=%7B%7D</a>

**2. Scopus**

<b>Author Identifier ID</b>	55792405400
<b>Profile</b>	<a href="https://www.scopus.com/authid/detail.uri?authorId=55792405400">https://www.scopus.com/authid/detail.uri?authorId=55792405400</a>

**3. Research Gate Overview**

<b>Profile</b>	<a href="https://www.researchgate.net/profile/Mahdi-Karkush">https://www.researchgate.net/profile/Mahdi-Karkush</a>
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**4. Google Scholar**

<b>Profile</b>	<a href="https://scholar.google.com/citations?hl=en&amp;view_op=list_works&amp;auth_user=3&amp;gmla=AOAOcb02z1JkKG6-uaTTD59PrIAVulb-SvXGDqM_2Eo68Q_vqi0dA1i0K44qIcGtbqDdYege86g1PdIKnjcpxcMGteXy&amp;user=rqc_eyYAAAAJ">https://scholar.google.com/citations?hl=en&amp;view_op=list_works&amp;auth_user=3&amp;gmla=AOAOcb02z1JkKG6-uaTTD59PrIAVulb-SvXGDqM_2Eo68Q_vqi0dA1i0K44qIcGtbqDdYege86g1PdIKnjcpxcMGteXy&amp;user=rqc_eyYAAAAJ</a>
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**5. ORCID**

<b>Profile</b>	<a href="https://orcid.org/0000-0003-1304-0303">https://orcid.org/0000-0003-1304-0303</a>
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**TEACHING EXPERIENCE, UNDERGRADUATE COURSES**

The following subjects and courses were thoroughly taught.

	Courses	Code	Stage	Academic year
▪	Mathematics I	CE 101	First	2015/2016
▪	Engineering Mechanics	CE 102	First	2000/2001
▪	Engineering Drawing	CE103	First	2000/2002
▪	Building Materials	CE105	First	2002/2003
▪	Mechanics of Materials	CE203	Second	1999/2000
▪	Soil Mechanics	CE302	Third	2009/Till now
▪	Foundation Engineering	CE402	Fourth	2017/2018
▪	Advanced Soil Mechanics	807 CAS	MSc	2011/2012

▪	Seepage	810 CSE	MSc	2019/Till now
▪	Advanced Soil Lab and Field Test	809 CAST	MSc	2011/2018
▪	Geo-Environmental Engineering	825 CGEE	MSc	2011/2018
▪	Finite Element Method	818 CFEM	MSc	2021/Till now
▪	Soil Dynamics	973 CSD	PhD	2016/Till now
▪	Soil-Structure Interaction	977 CSSI	PhD	2021/2023
▪	Sustainability in Geotechnical Engineering	985 CSGE	PhD	2018/Till now

## Memberships

▪	President of Iraqi Scientific Geotechnical Society
▪	Member of the Iraqi Engineers Union.
▪	Member of ISSMGE

## SOFTWARE EXPERIENCE

1.	GEOTECHNICAL AND STRUCTURAL MODELING, ANALYSIS, AND DESIGN	▪ Plaxis
		▪ Abaqus
		▪ SAFE
2.	OFFICE	▪ MS Word
		▪ MS Excel
		▪ MS PowerPoint
		▪ MS Visio
		▪ MS Projects
3.	AUTOCAD	▪ AutoCAD

## PUBLICATIONS AND SCIENTIFIC ARTICLES

- 1) Karkush MO, Altaher TA. Remediation of contaminated soil with petroleum industrial wastewater. Journal of Engineering. 2017 Jan 31;23(2):13-20.
- 2) Karkush MO, Al-TaHER TA. Geotechnical evaluation of clayey soil contaminated with industrial wastewater. Archives of civil engineering. 2017;63(1).
- 3) Karkush MO, Abdulkareem MS. Deep Improvement of Fine-Grained Soil Using Lime Piles. Zanco J. Pure Appl. Sci. 2019;31(5).
- 4) Ali SD, Karkush MO. Geotechnical Properties of Clayey Soil Contaminated with Copper. Association of Arab Universities Journal of Engineering Sciences. 2019 Mar 31;26(1):74-80.
- 5) Karkush MO, Ali H. Improvement of unconfined compressive strength of soft clayey soil by using glass wool fibers. In The Iraqi Journal for Mechanical and Material Engineering, Special Volume, Babylon First International Engineering Conference Issue (B) 2016.

- 6) Karkush MO, Abdulkareem MS. Impacts of petroleum fuel oil contamination on the geotechnical properties of fine-grained soils. *Indian J Eng.* 2018;15:228-37.
- 7) Karkush MO, Kareem MS. Behavior of pile group subjected to cyclic lateral loading in contaminated soils. *GEOMATE Journal.* 2016;10(21):1943-9.
- 8) Karkush MO, Kareem MS. EFFECTS OF INDUSTRIAL WASTES ON GEOTECHNICAL PROPERTIES OF CLAYEY SOIL. *Journal of Babylon University.* 2016.
- 9) Karkush MO, Kareem MA. Behavior of pile foundation subjected to lateral cyclic loading in contaminated soils. *Journal of Civil Engineering Research.* 2015;5(6):144-50.
- 10) Karkush MO, Kareem ZA. Investigation of the impacts of fuel oil on the geotechnical properties of cohesive soil. *Engineering Journal.* 2017 Jul 31;21(4):127-37.
- 11) Karkush MO, Aljorany AN, Jaffar GS. Behavior of passive single pipe pile in sandy soil. In *IOP Conference Series: Materials Science and Engineering 2020 Feb 1 (Vol. 737, No. 1, p. 012106).* IOP Publishing.
- 12) Karkush MO, Ahmed MD, Al-Ani SM. Effects of magnetic fields on the properties of water Treated by reversed osmosis.
- 13) Karkush MO, Ali SD. EFFECTS OF COPPER SULFATE CONTAMINATION ON THE GEOTECHNICAL BEHAVIOR OF CLAYEY SOILS. *Journal of GeoEngineering.* 2019 Mar 1;14(1).
- 14) Karkush MO, Kareem ZA. Effects of fuel oil on the geotechnical properties of clay soil. *Journal of Engineering.* 2017 Jul 31;23(8):1-2.
- 15) Karkush M. Behavior of pile groups subjected to axial static and lateral cyclic loads in contaminated soils. In *Geo-China 2016 2016 (pp. 166-174).*
- 16) Karkush MO, Ahmed MD, Al-Ani S. Magnetic Field Influence on The Properties of Water Treated by Reverse Osmosis. *Engineering, Technology & Applied Science Research.* 2019 Aug 1;9(4).
- 17) Karkush MO, Resol DA. Remediation of sandy soil contaminated with industrial wastewater. *International Journal of Civil Engineering.* 2017 May;15:441-9.
- 18) Karkush MO, Ali HA, Ahmed BA. Improvement of unconfined compressive strength of soft clay by grouting gel and silica fume. In *Proceedings of China-Europe Conference on Geotechnical Engineering: Volume 1 2018 (pp. 546-550).* Springer International Publishing.
- 19) Karkush M, Kareem MS, Jasim MM. Ultimate lateral load capacity of piles in soils contaminated with industrial wastewater. *Civil Engineering Journal.* 2018 Mar;4(3):509-17.
- 20) Saba J, Mahdi K. Shear strength and chemical properties of soft clayey soil treated with magnetized water. *Magazine of Civil Engineering.* 2023;124(8):12406.
- 21) Nafel SR, Karkush MO. Effect of Seismic Loading on Porewater Pressure in Clayey Soil under Disconnected Piles-Raft Foundation. *Journal of Engineering.* 2024 Mar 1;30(03):78-94.
- 22) Ibrahim AA, Karkush MO. The Efficiency of Belled Piles in Multi-Layers Soils Subjected to Axial Compression and Pullout Loads. *Journal of Engineering.* 2023 Sep 1;29(09):166-83.
- 23) Karkush MO. *Analytical Modeling and Experimental Investigation of The Leaching Behavior of Gypseous Soils* (Doctoral dissertation, Ph. D. Thesis, Civil Engineering Department, College of Engineering, University of Baghdad).
- 24) AlSaadi KA, Almurshedi AD, Karkush M. Effect of Geosynthetics-Reinforced Cushion on the Behavior of Partial Connected Piled Raft Foundation in Dry and Saturated Sandy Soil Using Shaking Table. *Indian Geotechnical Journal.* 2024 Feb 21:1-4.
- 25) Jihad A, Karkush M. Behavior of Geosynthetics-Strengthened Saturated Cushion Layer in Disconnected Piled-Raft System Under Seismic Loading. *Indian Geotechnical Journal.* 2024 Feb 14:1-4.
- 26) Karkush M. Preface: Development and Sustainability in Civil Engineering. In *AIP Conference Proceedings 2024 Jan 29 (Vol. 2864, No. 1, p. 010001).* AIP Publishing LLC.

- 27) Karkush MO, Kareem MS, Jawad S, Babu S. Sustainability analysis of improvement of contaminated clayey soil using lime piles technique. InAIP Conference Proceedings 2024 Jan 29 (Vol. 2864, No. 1). AIP Publishing.
- 28) Karkush MO, Jabbar A. Improvement of soft soil using linear distributed floating stone columns under foundation subjected to static and cyclic loading. Civil Engineering Journal. 2019 Mar 19;5(3):702-11.
- 29) Karkush MO, Ali SD. Remediation of clayey soil contaminated with copper sulfate using washing-enhanced electrokinetics technique. Russian Journal of Electrochemistry. 2019 Dec;55:1381-90.
- 30) Karkush MO, Zaboon AT, Hussien HM. Studying the effects of contamination on the geotechnical properties of clayey soil. Coupled phenomena in environmental geotechnics. 2013;21(5):599-607.
- 31) Karkush MO. Impacts of soil contamination on the response of piles foundation under a combination of loading. Engineering, Technology & Applied Science Research. 2016 Feb 5;6(1):917-22.
- 32) Al-Dulaimi AA, Karkush MO. Quantitative Description of the Two-Phase Constitutive Relationships for Organic Liquid Contaminants.
- 33) Karkush MO. Simulation the Behavior of Passive Rigid Pile in Sandy Soil. Journal of Engineering & Technological Sciences. 2020 Aug 1;52(4).
- 34) Karkush MO, Hussein AA. Experimental investigation of bearing capacity of screw piles and excess porewater pressure in soft clay under static axial loading. InE3S Web of Conferences 2021 (Vol. 318, p. 01001). EDP Sciences.
- 35) Karkush MO, Jihad AG, Jawad KA, Ali MS, Noman BJ. Seismic analysis of floating stone columns in Soft Clayey Soil. InE3S web of conferences 2021 (Vol. 318, p. 01008). EDP Sciences.
- 36) Karkush MO, Mukhleif OJ. Experimental Pullout Capacity of Screw Piles in Dry Gypseous Soil. InE3S Web of Conferences 2021 (Vol. 318, p. 01002). EDP Sciences.
- 37) Karkush MO, Alkaby AD. Numerical Modeling of Pullout Capacity of Screw Piles Under Seismic Loading in Layered Soil. Transportation Infrastructure Geotechnology. 2023 Feb;10(1):125-46.
- 38) Karkush MO, Choudhury D, editors. Modern Applications of Geotechnical Engineering and Construction: Geotechnical Engineering and Construction. Springer Nature; 2020 Dec 21.
- 39) Al-Mirza HA, Karkush MO. Numerical Modeling of Circular Tunnel Alignment Under Seismic Loading. InGeotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 15-27). Singapore: Springer Singapore.
- 40) Ibrahim AA, Karkush M. Numerical modeling of multi-belled piles in multi-layers soils under static axial loading. InAIP Conference Proceedings 2024 Jan 29 (Vol. 2864, No. 1). AIP Publishing.
- 41) Saady SZ, Karkush M. Comparison review between behavior of connected and disconnected pile raft foundation. InAIP Conference Proceedings 2024 Jan 29 (Vol. 2864, No. 1). AIP Publishing.
- 42) Alsultani KF, Majidi HS, Abdulameer S, Karkush M. High-temperature oxidation and hot corrosion behavior of the Inconel 738LC coating with and without Al<sub>2</sub>O<sub>3</sub>-CNTs. Journal of the Mechanical Behavior of Materials. 2023 Jul 19;32(1):20220294.
- 43) Karkush MO, Abdulkareem MS. Deep remediation and improvement of soil contaminated with residues oil using lime piles. International Journal of Environmental Science and Technology. 2019 Nov;16(11):7197-206.
- 44) Karkush MO, Al-Shakarchi YJ, Al-Jorany AN. Leaching behavior of gypseous soils. Journal of Engineering. 2008;14(04):3077-89.
- 45) Karkush MO, Resol DA. Geotechnical properties of sandy soil contaminated with industrial wastewater. Journal of Engineering Science and Technology, 2017; 12(12): 3136 – 3147.
- 46) Karkush M, Ali S. Remediation of clay soil contaminated with lead nitrate using washing-enhanced electrokinetic technique. Journal of Electrochemical Science and Engineering. 2019;9(1):63-73.
- 47) Karkush MO, Ali SD, Karkush MR, Ali SD. Impacts of lead nitrate contamination on the geotechnical properties of clayey soil. J Eng Sci Technol. 2020 Apr;15(2):1032-45.

- 48) Karkush MO, Yassin S. Improvement of geotechnical properties of cohesive soil using crushed concrete. *Civil Engineering Journal*. 2019 Oct 7;5(10):2110-9.
- 49) Karkush MO, Kareem ZA. Behavior of passive pile foundation in clayey soil contaminated with fuel oil. *KSCE Journal of Civil Engineering*. 2019 Jan;23:110-9.
- 50) Karkush MO, Al-Shakarchi YJ, Al-Jorany AN. Theoretical modeling and experimental investigation of leaching behavior of salty soils. In *Conference on Construction and Building Technology 2008* (Vol. 123, p. 138).
- 51) Karkush MO, Ziboon AR, Hussien HM. Studying the effects of contamination on soil properties using remote sensing. *Journal of Engineering*. 2014 Jun 1;20(06):78-90.
- 52) Karkush MO, Ala NA. Numerical evaluation of foundation of digester tank of sewage treatment plant. *Civil Engineering Journal*. 2019 May 22;5(5):996-1006.
- 53) Karkush MO, AbdulKareem MS. Effects of residue oil contamination on the geotechnical properties of clay soil. *Association of Arab Universities Journal of Engineering Sciences*. 2018;25(5):243-55.
- 54) Karkush MO, Altaher TA. Risk assessment of AL-Nassyriah oil refinery soil. *J Civil Eng Res*. 2016;6(1):16-21.
- 55) Karkush MO, Kareem ZA. Investigation the impacts of fuel oil contamination on the behaviour of passive piles group in clayey soils. *European Journal of Environmental and Civil Engineering*. 2021 Feb 23;25(3):485-501.
- 56) Karkush MO, Ziboon AR, Hussien HM. Application of Remote Sensing Techniques in Geoenvironmental Engineering.
- 57) Karkush MO, Resol DA. Studying the effects of industrial waste water on chemical and physical properties of sandy soil. *Journal of Babylon University/Engineering Sciences*. 2015;23(2).
- 58) Jebur MM, Ahmed MD, Karkush MO. Numerical analysis of under-reamed pile subjected to dynamic loading in sandy soil. In *IOP conference series: materials science and engineering 2020* (Vol. 671, No. 1, p. 012084). IOP Publishing.
- 59) Karkush MO, Jafar GS. Effects of surcharge on the behavior of passive piles in sandy soil. *International Journal of Scientific & Engineering Research*. 2015;6(10):392-7.
- 60) Karkush MO. *Analytical Modeling and Experimental Investigation of The Leaching Behavior of Gypseous Soils* (Doctoral dissertation, Ph. D. Thesis, Civil Engineering Department, College of Engineering, University of Baghdad).
- 61) Alkaby SR, Karkush M. Numerical modeling of disconnected piles-raft foundation under static loading in clayey soil. In *AIP Conference Proceedings 2024 Jan 29* (Vol. 2864, No. 1). AIP Publishing.
- 62) Karkush MO, Ali SD, Bakr JA. Influence of remediation by electrokinetic on the chemical and geotechnical properties of clayey soil contaminated by copper sulfate. *Earth Sciences Research Journal*. 2023 Nov 10;27(3):313-9.
- 63) Sabaa MR, Salman AD, Dakhil AJ, Jawad SI, Karkush MO, Athab A. Production Thematic Maps of Bearing Capacity of Shallow Foundation for Al-Basrah Soil Using Standard Penetration Data and GIS. *Journal of Rehabilitation in Civil Engineering*. 2023 Nov 1;11(4):77-90.
- 64) Jawad SI, Karkush M, Kaliakin VN. Alteration of physicochemical properties of tap water passing through different intensities of magnetic field. *Journal of the Mechanical Behavior of Materials*. 2023 Mar 7;32(1):20220246.
- 65) Karkush M, Ali N. Using microbial induced carbonat precipitation for improving the undrained shear strength of soft clayey soil. *Proceeding of the 20<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering*. 2022.
- 66) Ali AM, Karkush MO, Al-Jorany AN. Numerical modeling of connected piled raft foundation under seismic loading in layered soils. *Journal of the Mechanical Behavior of Materials*. 2023 Apr 4;32(1):20220250.



- 67) Karkush M, Ali NA. Electrokinetic enhancement of microbial induced calcite precipitation used in improving the shear strength of soft clay. In Smart Geotechnics for Smart Societies 2023 Aug 4 (pp. 155-163). CRC Press.
- 68) Almurshedi AD, Karkush M. Experimental and numerical modeling of load settlement behavior of gypseous soils improved by MICP. In Smart Geotechnics for Smart Societies 2023 Aug 4 (pp. 583-589). CRC Press.
- 69) Al-Kaabi AD, Karkush MO. Numerical Modeling Load Displacement Behavior of Screw Piles under Seismic Loading in Soft Soil. Association of Arab Universities Journal of Engineering Sciences. 2022;29(3):12-22.
- 70) Al-Mirza HA, Karkush MO. A Numerical Study on the Behavior of NATM Tunnels under Seismic Loading. Association of Arab Universities Journal of Engineering Sciences. 2022;29(3):29-35.
- 71) Karkush M, Choudhury D, Han J, editors. Current Trends in Geotechnical Engineering and Construction: Proceedings of 3ICGE-Iraq 2022. Springer Nature; 2022 Oct 28.
- 72) Al-Khalidi EE, Lwti NK, Karkush MO, Aljuboori WA. Numerical assessment of ring foundation settlement under seismic loading. In International Conference on Geotechnical Engineering-IRAQ 2022 May 17 (pp. 230-242). Singapore: Springer Nature Singapore.
- 73) Fattah MY, Karkush MO, Al-Neami MA, Al-Kaabi TY, Hameedi MK, Jebur MM, Fadhil SH, Al-Dahlaki MH. Observations on the Behavior of Continuous Flight Auger Piles in Iraq. In International Conference on Geotechnical Engineering-IRAQ 2022 May 17 (pp. 222-229). Singapore: Springer Nature Singapore.
- 74) Abdulnabi TY, Karkush MO, Safa Y, Mahdi AH. Effect of Embedment Depth on the Load-Settlement Behavior of Precast Pile in Al-Gharraf Oil Field. In International Conference on Geotechnical Engineering-IRAQ 2022 May 17 (pp. 211-221). Singapore: Springer Nature Singapore.
- 75) Karkush MO, Almurshedi AD, Karim HH. Investigation of the impacts of nanomaterials on the micromechanical properties of gypseous soils. Arabian Journal for Science and Engineering. 2023 Jan;48(1):665-75.
- 76) Karkush MO, Choudhury D. Geotechnical Engineering and Sustainable Construction.
- 77) Karkush MO, Sabaa MR, Salman AD, Al-Rumaithi A. Prediction of bearing capacity of driven piles for Basrah governorate using SPT and MATLAB. Journal of the Mechanical Behavior of Materials. 2022 Jan 1;31(1):39-51.
- 78) Hussein AA, Karkush MO. Experimental Investigation of Pullout Capacity of Screw Piles in Soft Clayey Soil. In Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 315-327). Singapore: Springer Singapore.
- 79) Salman AD, Karkush MO, Karim HH. Effect of microbial induced calcite precipitation on shear strength of gypseous soil in dry and soaking conditions. In Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 103-114). Singapore: Springer Singapore.
- 80) Karkush MO, Mohsin AH, Saleh HM, Noman BJ. Numerical analysis of piles group surrounded by grouting under seismic load. In Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 379-389). Singapore: Springer Singapore.
- 81) Karkush MO, Ali SD, Saidik NM, Al-Delfee AN. Numerical modeling of sheet pile quay wall performance subjected to earthquake. In Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 355-365). Singapore: Springer Singapore.
- 82) Karkush MO, Sabaa MR, Jaffar GS, Al-Kubaisi OK. Effect of Embankment on the Behavior of Rigid Passive Pile Group in Sandy Soil. In Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022 Mar 20 (pp. 329-341). Singapore: Springer Singapore.

- 83) Alkaby AD, Karkush MO. Numerical modeling of screw piles performance under static and seismic loads in soft soils. In *Geotechnical Engineering and Sustainable Construction: Sustainable Geotechnical Engineering 2022* Mar 20 (pp. 291-303). Singapore: Springer Singapore.
- 84) Karkush M, Jabbar A. An improvement of bearing capacity of soft soil and reducing excess porewater pressure using several patterns of floating stone columns. *Journal of Engineering Research*. 2021;10:84-97.
- 85) Karkush MO, AbdulKareem MS, Dekhn H. Effect of deep remediation and improvement on bearing capacity and settlement of piled raft foundation subjected to static and cyclic vertical loading. *Geomechanics and Geoengineering*. 2022 Nov 2;17(6):1801-11.
- 86) Al-Dulaimi AA, Karkush MO. Quantitative Description of the Two-Phase Constitutive Relationships for Organic Liquid Contaminants. *Journal of Babylon University*.
- 87) Bouali MF, Karkush MO, Bouassida M. Impact of wall movements on the location of passive Earth thrust. *Open Geosciences*. 2021 May 19;13(1):570-81.
- 88) Karkush M, Jabbar A. Behavior of floating stone columns and development of porewater pressure under cyclic loading. *Transportation Infrastructure Geotechnology*. 2022 Apr;9(2):236-49.
- 89) Ali SD, Karkush MO. Geotechnical Properties of Clayey Soil Contaminated with Copper. *Association of Arab Universities Journal of Engineering Sciences*. 2019 Mar 31;26(1):74-80.
- 90) Ali NA, Karkush MO. Improvement of unconfined compressive strength of soft clay using microbial calcite precipitates. *Journal of Engineering*. 2021 Feb 27;27(3):67-75.
- 91) AL-Shamaa MF, Sheikha AA, Karkush MO, Jabbar MS, Al-Rumaithi AA. Numerical modeling of honeycombed geocell reinforced soil. In *Modern Applications of Geotechnical Engineering and Construction: Geotechnical Engineering and Construction 2021* (pp. 253-263). Springer Singapore.
- 92) AL-Ani SM, Karkush MO, Zhussupbekov A, Al-Hity AA. Influence of magnetized water on the geotechnical properties of expansive soil. In *Modern Applications of Geotechnical Engineering and Construction: Geotechnical Engineering and Construction 2021* (pp. 39-50). Springer Singapore.
- 93) Karkush MO, Jaffar GS, Al-Kubaisi OK. Evaluating the performance of flexible passive pile group in cohesionless soil under the effect of a nearby embankment. In *Modern Applications of Geotechnical Engineering and Construction: Geotechnical Engineering and Construction 2021* (pp. 1-12). Springer Singapore.
- 94) Karkush MO, Al-Murshedi AD, Karim HH. Investigation of the Impacts of Nano-clay on the Collapse Potential and Geotechnical Properties of Gypseous Soils. *Jordan Journal of Civil Engineering*. 2020 Oct 1;14(4).
- 95) Mukhleif OJ, Karkush MO, Zhussupbekov A. Strength and compressibility of screw piles constructed in gypseous soil. In *IOP Conference Series: Materials Science and Engineering 2020 Aug 1* (Vol. 901, No. 1, p. 012006). IOP Publishing.
- 96) Al-Rumaithi A, Al-Shamaa MF, Karkush MO. Probability concepts of transfer load to the foundation of container structure. In *IOP Conference Series: Materials Science and Engineering 2020 Aug 1* (Vol. 901, No. 1, p. 012007). IOP Publishing.
- 97) Ali NA, Karkush MO, Al Haideri HH. Isolation and identification of local bacteria produced from soil-borne urease. In *IOP Conference Series: Materials Science and Engineering 2020 Aug 1* (Vol. 901, No. 1, p. 012035). IOP Publishing.
- 98) Karkush MO, Aljorany AN. Analytical and numerical analysis of piled-raft foundation of storage tank. In *Construction in Geotechnical Engineering: Proceedings of IGC 2018 2020* (pp. 373-384). Springer Singapore.
- 99) Karkush MO, Ahmed MD, Sheikha AA, Al-Rumaithi A. Thematic maps for the variation of bearing capacity of soil using SPTs and MATLAB. *Geosciences*. 2020 Aug 20;10(9):329.
- 100) Karkush MO, Jihad AG. Studying the geotechnical properties of clayey soil contaminated by kerosene. *Key engineering materials*. 2020 Sep 7;857:383-93.



- 101) Karkush MO, Yassin SA. Using sustainable material in improvement the geotechnical properties of soft clayey soil. Journal of Engineering Science and Technology. 2020 Aug;15(4):2208-22.
- 102) Al-Murshedi AD, Karkush MO, Karim HH. Collapsibility and shear strength of gypseous soil improved by nano silica fume (NSF). Key Engineering Materials. 2020 Sep 7;857:292-301.
- 103) Jihad AG, Karkush M. Performance of geosynthetics-strengthened unconnected piled raft foundations under seismic loading. Magazine of Civil Engineering. 2024;17(3):2-8.

## Awards & Certificates

1.	Certified academic reviewer (Past certificate from Publons, Reviewer Credits, Journals, Conferences, etc.)
2.	Certified of Training Courses
3.	Certificates of Chairing and memberships of Organizing and Scientific Committees of several international conferences
4.	Award from L.N. Gumilyov Eurasian National University
5.	Awards from Several Iraqi Universities for cooperation.

## Relevant Experience and Main Achievements

### A) Work Experience

1.	Member of the Civil Engineering Board/Babylon University (2000-2008).
2.	Member of the Civil Engineering Board/Baghdad University (2008- till now aday).
3.	Coordinator of Civil Engineering Department/Babylon University (2000-2002).
4.	Member of Exam Boards in Civil Engineering Department/Babylon University (2000-2002).
5.	Head of Exam Boards-B in Civil Engineering Department/Baghdad University (2009-2011).
6.	Member of Team Responsible about the Structural Design of many Buildings in Babylon University.
7.	Member of Team Responsible about the Structural Design of many Buildings in Al-Qadhsia University.
8.	Member of Team Responsible about the Structural Design of the Building of Directorate of Electricity/Babel.
9.	Member of Team Responsible about the Structural Design of Multi-storey Hall/Dewanyia Province.
10.	Head of Team Responsible about the Design of School Building, World Bank Projects-Stage-I, Dewanyia Province.
11.	Member of Team Responsible about the Design of School Building, World Bank Projects-Stage-I, Babylon Province.
12.	Member of Team Responsible about the Design of School Building, World Bank Projects-Stage-II, Babylon, Dewanyia and Najaf Provinces (Al-Kufa Consultancy Bureau).
13.	Head of Team Responsible about the Design of School Building, World Bank Projects-Stage-II, Babylon Province.
14.	Member of Team Responsible about the Design of School Building, World Bank Projects-Stage-I, Dewanyia Province.

15.	Member of Team Responsible about the Design of Multi-Storey Cars Parking Buildings in Dewanyia, Karbala and Najaf for General Directorate of Municipalities.
16.	Member of Team Responsible about the Design of Sewage System for Hill City.
17.	Member of Team Responsible about the Design of Sewage System for Azizia/Wassit Province.
18.	Member of Team Responsible about the Design of Sewage System for Numaniya/Wassit Province.
19.	Member of Team Responsible about the soil investigation for many different Projects in Wassit, Dewanyia, Nassayria, Karbala and Najaf.
20.	Member of Team Responsible about the Design of Sewage System for Al-Jadwal Al-Garbi District/Karbala Province.
21.	Member of Team Responsible about the Design of the Second Lane of Omara-Sheeb Road.
22.	Member of Management team of updating the master plan for Badra city.
23.	Member of Management team of updating the master plan for Suwairra city.
24.	Member of Management team of preparing the new master plan for Doboni city.
25.	Head of Team Responsible about the Design of Directorate of Prison/Ministry of Interior/Iraq.
26.	Head of Team Responsible about the Soil Investigation and Remediation of Sewer Pipe line/Kut/Wassit Province.
27.	Head of Team Responsible about the Soil Investigation and Remediation of Sewer Pipe line/Kut/Wassit Province.
28.	Member of Team Responsible about the Design of Second Road Connecting Iran with Omara/Myssan Province Iraq.
29.	Head of Team Responsible about the Soil Investigation for Baiji Tourist City/Salah Al-Deen Province/Iraq.
30.	Member of Team Responsible about the Design of Baiji Tourist City/Salah Al-Deen Province /Iraq.
31.	Head of Surveying Team conducted Office and Field Surveying Works for Redevelopment of Master Plans for Zubaidyia and Sheikh Saad/Wassit Province.
32.	Head of Topographic Survey and Soil Resistivity Survey for Petronas Oil Company in Garaaf-Nassayria Province.
33.	Head of team conducting soil investigation for the directorate of municipalities- Hilla-Babylon.
34.	Structural design for the directorate of municipalities- Hilla- Babylon.
35.	Head of team conducting soil investigation for the directorate of municipality- Al-Hurr-Karbala.
36.	Structural design for the directorate of municipality- Al-Hurr- Karbala.
37.	Structural design for Al-Bilad Islamic Bank-Erbil.
38.	Head of team conducting soil investigation for the water project in Al-Hay and Al-Bashaer-Wassit.
39.	Head of team conducting soil investigation for the sewage project in Ghammas- Dewanyia.
40.	Head of team conducting soil investigation for the sewage project in Suk-Al sheouk-Thi Qar.
41.	Head of team conducting topographic survey for water project in Al-Hay and Al-Bashaer-Wassit.
42.	Head of team conducting topographic survey for the sewage project in Suk-Al Sheouk-Thi Qar.

43.	Head of team conducting topographic survey for the sewage project in Ghammas- Dewanyia.
44.	Head of team conducting orthorectification of satellite images for the project of structural plan of Myssan.
45.	Structural design for the directorate of municipality- Al-Hindyia- Karbala.
46.	Structural design for the Multi-Function Building in Najaf.
47.	Member of soil samples testing for PS2 (oil tanks) in Nassyriah.
48.	Member of topographic survey of Suwairrah military airport.
49.	Member of soil investigation team for Al-Basrah electricity control system.
50.	Structural designer of several buildings and projects.
51.	Conductiong soil invetigations for hundered of projects in Iraq.
52.	Supervision the construction of several projects in Iraq.
53.	Consulting of Urban planning for several projects in Iraq