

Curriculum Vitae	
<b>Mohammed Salih Hussain</b>	
PhD, MSc, BSc	
Name	Mohammed
Surname	Hussain
D.O.B.	January 23 <sup>rd</sup> -1981
Work Address	University of Duhok College of Engineering, Civil Engineering Department Zakho Street 38, 1006AJ Duhok (P.O. Box 78) Kurdistan Region-Iraq
Email	<a href="mailto:mohammed@uod.ac">mohammed@uod.ac</a> ; <a href="mailto:msh218@exeter.ac.uk">msh218@exeter.ac.uk</a>
Mobile	+964 (0)750 4588464
Web	<a href="http://web.uod.ac/ac/c/coe/departments/civil-engineering/academic-members/mohammed-salih-hussain/">http://web.uod.ac/ac/c/coe/departments/civil-engineering/academic-members/mohammed-salih-hussain/</a> <a href="http://emps.exeter.ac.uk/engineering/staff/msh218">http://emps.exeter.ac.uk/engineering/staff/msh218</a>
ResearchGate	<a href="https://www.researchgate.net/profile/Mohammed_Hussain30">https://www.researchgate.net/profile/Mohammed_Hussain30</a>
Google Scholar	<a href="https://scholar.google.com/citations?user=pZsGwacAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=pZsGwacAAAAJ&amp;hl=en</a>



## EDUCATION

- PhD** in Geotechnical Engineering **2016**  
College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK  
Title of dissertation: Numerical simulation and effective management of saltwater intrusion in coastal aquifers
- MSc** in Geotechnical Engineering (Soil Mechanics) **2007**  
University of Mosul, Mosul, Iraq  
Title of thesis: "Effect of wetting and drying cycles on swelling properties of soil under different loading in Summel city"
- BSc** in Civil Engineering **2002**  
University of Duhok, Duhok, Kurdistan Region of Iraq
- Diploma**-High School **1998**  
Imam Khomeini High School, Naqadeh, West Azerbaijan Province, Iran

**WORK EXPERIENCE**

<b>Teaching</b>	<b>2016-present</b>
University of Duhok, college of Engineering, Civil Department, KRG-Iraq	
<b>Postgraduate Teaching Assistant</b>	<b>2012-2016</b>
University of Exeter, Engineering Department, UK	
<b>Teaching</b>	<b>2003-2012</b>
University of Duhok, college of Engineering, Civil Department, KRG-Iraq	
<b>Industrial Engineer</b>	<b>2002-2003</b>
Herish Company (Contract and Construction comp.) Duhok, KRG-Iraq.	

**PROFESSIONAL EXPERIENCE****a) Tutored/Assisted Lectures**

- Demonstration of **Laboratory classes** of **Geotechnics** 1 and 2; and supervision of a number of MSc and undergraduate student projects in the field of Geotechnical Engineering. University of Exeter, UK (2012-2015).
- **Soil Mechanics** and **Engineering. Mathematical** courses; supervision of a number of undergraduate student projects in the field of Geotechnical Engineering (soil mechanics and **foundation Engineering**), University of Duhok, Iraq (2007-2010).
- Demonstration of Laboratory classes of soil Mechanics , University of Duhok, Iraq (2002-2003).

**b) Consultancy Projects**

- Helping with a number of consultancy projects related to geoenvironmental engineering and groundwater modelling projects, University of Exeter, UK (2012-2015).
- Laboratory Working Team in Engineering Consulting Bureau, University of Duhok, from (2007 to 2011).
- Supervision on several engineering projects with Herish Company (Contract and Construction comp.) Duhok, Kurdistan Region, Iraq, from (01/08/2002) to (01/09/2003).

**c) Committee Roles**

- Actively involved in the organization of the international conference of the [22nd ACME Conference on Computational Mechanics Engineering \(ACME2014\)](#) in Exeter as conference secretariat.

**d) Editorial Activities**

- Co-editor of [Proceedings of the 22nd UK National Conference of the Association for Computational Mechanics in Engineering \(ACME2014\)](#), University of Exeter, 2–4 April 2014, Exeter, UK. [\[Download\]](#)

## **LANGUAGES**

English, Arabic, Persian and Kurdish (native)

## **AWARDS and GRANTS**

- Mohammed has been shortlisted by [Ground Engineering magazine](#) for the award in the "[Postgraduate student of the Year](#)" category at their [2015 GE Next Generation Awards](#).
- PhD scholarship to study in the UK (12/2011– 12/2015): Supported by Ministry of Higher Education and Scientific Research in Kurdistan region of Iraq ([KRG-HCDP Scholarship program](#)).
- MSc scholarship to study outside the KRG (12/2003-12/2006) : Supported by University of Duhok and Ministry of Higher Education and Scientific Research in Kurdistan region (Collaboration scholarship with university of Mosul)

## **RESEARCH INTERESTS**

Computational Geomechanics, Geotechnical and Geoenvironmental Engineering including but not limited to:

- Soil reinforcement and stabilization
- Swelling properties of clay-water system
- Treatment of expansive soils
- Numerical modelling of flow and contaminant transport in saturated/unsaturated soils
- Management of groundwater resources
- Numerical modelling and control of seawater intrusion
- Data mining and integrated simulation-optimization models

## **PROFESSIONAL MEMBERSHIPS:**

- [British Geotechnical Association \(BGA\)](#)
- [International Society for Rock Mechanics \(ISRM\)](#)
- [International Society for Soil Mechanics and Geotechnical Engineering \(ISSMGE\)](#)
- [Computational Geomechanics Group \(CGG\)](#), University of Exeter, UK
- [Structures and Dynamics Group \(SDG\)](#), University of Exeter, UK

## **PUBLICATIONS**

### ***a) Journal Papers:***

1. **Hussain, M.S.** & Javadi, A.A. (2016) “Assessing impacts of sea level rise on seawater intrusion in coastal aquifers with sloped shoreline boundary”. *Journal of Hydro-Environment Research*, vol. 11, pp 29-41. doi: [10.1016/j.jher.2016.01.003](https://doi.org/10.1016/j.jher.2016.01.003)
2. **Hussain, M.S.**, Javadi, A.A. & Sherif, M.M. (2015) “Three dimensional simulation of seawater intrusion in a regional coastal aquifer in UAE”. *Procedia Engineering*, vol. 119, pp. 1153-1160. doi: [10.1016/j.proeng.2015.08.965](https://doi.org/10.1016/j.proeng.2015.08.965)
3. **Hussain, M.S.**, Javadi, A.A., Ahangar-Asr, A. & Farmani, R. (2015) “A surrogate model for simulation–optimization of aquifer systems subjected to seawater intrusion”. *Journal of Hydrology*. vol. 523, pp. 542-554, doi:[10.1016/j.jhydrol.2015.01.079](https://doi.org/10.1016/j.jhydrol.2015.01.079).
4. Javadi, A., **Hussain, M.**, Sherif, M. & Farmani, R. (2015) “Multi-objective Optimization of Different Management Scenarios to Control Seawater Intrusion in Coastal Aquifers”. *Water Resources Management*. vol. 29, no. 6, pp. 1843-1857, doi: [10.1007/s11269-015-0914-1](https://doi.org/10.1007/s11269-015-0914-1).
5. **Hussain, M.S.**, (2010) “Comparison between observed and finite element analysis of settlements in raft foundations”. *Journal of Duhok University: Scientific and Academic*, JDU, vol. 13, no.1.
6. Khalid. A.M, **Hussain, M.S.** and Al-Layla, M.T. (2008) “Swell-shrink properties of expansive soil subjected to wetting and drying cycles under different loading”. *Journal of Duhok University: Scientific and Academic*, JDU, vol. 11, no.2, pp.131-140.

### ***b) Book Chapter:***

1. **Hussain, M.S.**, Ahangar-Asr, A., Chen, Y. & Javadi, A.A. 2015. “A new evolutionary approach to geotechnical and geo-environmental modelling”. In: Gandomi, A. H., Alavi, A. H. & Ryan, C. (eds.) *Handbook of Genetic Programming Applications*. Springer International Publishing. doi:[10.1007/978-3-319-20883-1\\_19](https://doi.org/10.1007/978-3-319-20883-1_19)

### ***c) Conference Papers:***

1. **Hussain, M. S.** & Javadi, A.A. “Artificial recharge of coastal aquifers using treated wastewater to control saltwater intrusion”, *Proceedings of the 24th UK Conference of the Association for Computational Mechanics in Engineering (ACME2016)*, Cardiff University, 31 March-1 April 2016, Cardiff, UK, pp 335 – 338.
2. Javadi, A.A. & **Hussain, M.S.** “A comparative simulation-optimization study on effective management of saltwater intrusion in coastal aquifers”, *Proceedings of the 24th UK Conference of the Association for Computational Mechanics in Engineering (ACME2016)*, Cardiff University, 31 March-1 April 2016, Cardiff, UK, pp 2 – 5
3. Naseri-Karim-Vand, R., Javadi, A.A. & **Hussain, M.S.** “Fracture models for hydraulic fracturing stimulation: Comparison between Numerical method and an EPR-based method”, *Proceedings of the 24th UK Conference of the Association for Computational Mechanics in Engineering (ACME2016)*, Cardiff University, 31 March-1 April 2016, Cardiff, UK, pp 401 – 404.
4. **Hussain, M.S.** & Javadi, A.A. “Potential impacts of inundation on water quality and saltwater intrusion”, *42nd IAH International Congress (AQUA2015)*, Rome, Italy, 13th to 18th September 2015.

5. **Hussain, M.S.**, Javadi, A.A. & Sherif, M.M. “Three dimensional simulation of seawater intrusion in a regional coastal aquifer in UAE”. The 13th Computing and Control for Water Industry Conference (CCWI 2015), , De Montfort University, Leicester, UK, 2 - 4 September 2015. doi: [10.1016/j.proeng.2015.08.965](https://doi.org/10.1016/j.proeng.2015.08.965)
6. **Hussain, M.S.**, Javadi, A.A. & Naseri-Karim-Vand, R. “Control of seawater intrusion using aquifer storage and recovery (ASR) technique”, Proceedings of the 23rd UK Conference of the Association for Computational Mechanics in Engineering (ACME2015),8-10 April 2015,Swansea,UK [*Accepted for publication in ICE Journal of Engineering and Computational Mechanics Journal*].
7. **Hussain, M.S.** & Javadi, A.A. “The Impacts of Different Aquifer Parameters on Seawater Intrusion in Coastal Aquifers Subjected to Sea Level Rise”, Workshop on Advances in Numerical Modelling of Hydrodynamics (HYDRO2015), University of Sheffield, 24-25 March 2015, Sheffield, UK.
8. Javadi A.A. & **Hussain M.S.** (2014) “Multi-objective management of unconfined aquifer considering the unsaturated flow zone”, Proceedings of the 6th International Conference on Unsaturated Soils (UNSAT 2014), 2-4 July 2014, Sydney, Australia, (in Unsaturated Soils: Research and Applications, volume 1, CRC Press, pages 481-487). doi:[10.1201/b17034-67](https://doi.org/10.1201/b17034-67)
9. **Hussain, M.S.** & Javadi, A.A. “Cost-Effective Management of Sea Water Intrusion in Shallow Unconfined Aquifers”, 23rd Salt Water Intrusion Meeting (SWIM23),16 to 20 June 2014, Husum, Germany.
10. **Hussain, M.S.**, Javadi, A.A. & Robin V. “Numerical modelling of the impacts of sea level rise on seawater intrusion in unconfined coastal aquifers”, Proceedings of the 22nd UK National Conference of the Association for Computational Mechanics in Engineering (ACME2014), University of Exeter, 2–4 April 2014,Exeter,UK
11. Javadi, A.A., **Hussain, M.S.**, Abd-Elhamid, H.F., & Sherif, M.M. "Numerical modelling and control of seawater intrusion in coastal aquifers", Proceedings of the 18th International Conference on Soil Mechanics and Geotechnical Engineering ( ICSMGE) , 2-6 September 2013, Paris, France.
12. Javadi, A.A., **Hussain, M.S.**, Abd-Elhamid, H.F. & Sherif, M.M. "Management of seawater intrusion in unconfined coastal aquifers",Proceedings of the 20th International Workshop: Intelligent Computing in Engineering 2013,European Group for Intelligent Computing in Engineering (eg-ice),1-7 July 2013, Vienna, Austria.
13. Javadi, A.A., **Hussain, M.S.** & Sherif, M.M. "Optimal control of seawater intrusion in coastal aquifers",Proceedings of the International Conference on Computational Mechanics (CM13) ,Durham University and the UK Association of Computational Mechanics in Engineering (ACME), 25-27 March 2013, Durham,UK.