Dr. Manal Najjar, CV
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PROFILE

- An Assistant Professor on structural engineering specialized in concrete technology and construction materials as well as experimental and analytical research expertise in the area of two-stage concrete, sustainability and green construction, and concrete durability.

EDUCATION

- Ph.D., Structural, Department of Civil and Environmental Engineering. The University of Western Ontario. London-ON. 2017.
- M.Sc., Structural, Civil Engineering Department, Faculty of Engineering, Tripoli University. Tripoli, Libya. 2010.
- B.Sc., Civil Engineering Department, Faculty of Engineering, Tripoli University, 2000.

AWARDS AND HONOURS

- Post Graduate External Scholarship, PhD In Structural Engineering. The Libyan Authority of Higher Education. Libya. 2010/2016
- The First Top Ranking M.Sc., Graduate Student, 2009/2010 Civil Engineering Department, Faculty of Engineering, Tripoli University.
- The First Top Ranking B.Sc., Graduate Student, 1999/2000 Civil Engineering Department, Faculty of Engineering, Tripoli University.
- Certificate of Excellence, The Libyan Annual Camp Of Superiors and Talents, 2004, Tripoli – Libya.

WORK EXPERIENCE

- Structural engineer, National Consulting Bureau, Tripoli – Libya, 2001 – 2005.

ACADEMIC EXPERIENCE

- Teaching graduate and under-graduate courses in civil engineering, University of Tripoli, includes; Statics, Properties of Materials, Structural Analysis I and II, Solid Mechanics, Construction Materials and Special Topics in Concrete . (2017-Till now)
- Performing lab and experimental test of concrete and construction materials as well as analysis of results and preparing academic papers during PhD research. (2012 – 2016).
- Teaching assistant of under-graduate courses, civil engineering, Western University, London-ON, Canada. Includes; CEE 2202a/b- Mechanics of Materials I & CEE 3369a/b – Civil Engineering Materials (2012-2015)

PUBLICATIONS

1. Sanad Aljadidi, **Manal Najjar** and Sana Elbajegni “The Effect of Silica Fume on the Bond Properties between Concrete and Steel Reinforcement”, The First International Scientific Conference on Civil Engineering Applications, Omar Al-Mukhtar University, 8-9/7/2024.
2. Enas.Elmusrati, Amal Elkhoja, **Manal Najjar** and Abdurrahman Elgalhud “Locally Recycled Aggregate as a Replacement of Natural Aggregate for Sustainable Solution”, The First International Scientific Conference on Civil Engineering Applications, Omar Al-Mukhtar University, 8-9/7/2024.
3. Elgalhud, A.A, **Najjar, M.F.**, El-khoja, A.M. and Elmusrati, E.A. (2022) “Characteristics of Ground limestone Addition”, The Academic Open Journal of Applied and Human Science, Vol. 1 No. 3, pages 58-108.

4. El-khoja, A.M., Elgalhud, A.A, **Najjar, M.F.** and Elmusrati, E.A. (2022) “Experimental Study on the Properties of Rubberised Concrete Incorporating Nano-Silica”, Journal of Engineering Research, Issue (33), pages 1-18.
5. **Najjar, M.F.**, Elmusrati, E.A., El-khoja, A.M., and Elgalhud, A.A., (2021) “Influence of Fine Aggregate Type and Content on The Properties of Grout for Two-Stage Concrete”, Journal of Engineering Research, Issue (31), pages 1-12.
6. Elgalhud, A.A., El-khoja, A.M., **Najjar, M.F.**, and Elmusrati, E.A., (2021) “Towards Sustainable Development of Concrete Industry”, Al-ostath, Issue (20), pages 25-51.
7. **Najjar, M.F.**, and Elmusrati, E.A., (2021) “Proposal of using Two- Stage Concrete in Desert Climate”, Proceedings of the Second Conference for Construction in Desert Areas, Tripoli, Libya.
8. Nehdi, M.L., **Najjar, M.F.**, Soliman, A.M. and Azabi, T.M., (2017) “Novel steel fibre reinforced preplaced aggregate concrete with superior mechanical performance”, Cement and Concrete Composites, Volume 82, September 2017, pages 242–251, DOI:http://doi.org/10.1016/j.cemconcomp.2017.07.002.
9. Nehdi, M.L., **Najjar, M.F.**, Soliman, A.M. and Azabi, T.M., (2017) “Novel-Eco efficient two stage concrete incorporating high volume recycled content for sustainable pavement construction”, Construction and Building Materials, Volume 146, pages 9-14, DOI:https://doi.org/10.10.16/j,conbuildmat.2017.04.65.
10. **Najjar, M.F.**, Nehdi, M.L., Azabi, T.M., and Soliman, A.M., (2017) “Fuzzy inference system based prediction of engineering properties of two-stage concrete”, Computers and Concrete, Volume 19, Issue 2, DOI: https://doi.org/10.12989/cac.2017.19.2.133.
11. **Najjar, M.F.**, Nehdi, M.L., Soliman, A.M. and Azabi, T.M., (2017) “Damage mechanisms of two stage concrete exposed to chemical and physical sulfate attack”, Construction and Building Materials, Volume 137, April 2017, pages 141 –152.
12. **Najjar, M.F.**, Soliman, A.M., Azabi, T.M., and Nehdi, M.L. (2017) “Durability of two-stage (pre-placed aggregate) concrete to sulfate attack”, ACI Special Publications, Volume 317, pages 1–16.
13. **Najjar, M.F.**, Soliman, A. and Nehdi, M., (2017), “Grouts incorporating supplementary cementitious materials for two-stage concrete,” ASCE Journal of Materials in Civil Engineering. Volume 29, Issue 6 DOI: 10.1061/(ASCE)MT.1943-5533.0001841.
14. **Najjar, M.F.**, Soliman, A.M. and Nehdi, M.L., (2016) “Sustainable high-volume fly ash grouts for two-stage concrete,” Proceedings of the CSCE Annual Conference: Resilient Infrastructure, London, Ontario, Canada.
15. **Najjar, M.F.**, Soliman, A.M., Azabi, T.M. and Nehdi, M.L., (2016) “Green sidewalks using sustainable two-stage concrete,” Proceedings of the CSCE Annual Conference: Resilient Infrastructure, London, Ontario, Canada.
16. **Najjar, M.F.**, Soliman, A. and Nehdi, M., (2016), “Two-stage concrete made with single, binary and ternary binders,” Materials and Structures, Vol. 49, No. 1, pp. 317-327.
17. **Najjar, M.F.**, Soliman, A. and Nehdi, M., (2014), “Critical overview of two stage concrete: properties and applications,” Construction and Building Materials, Vol. 62, pp. 47-58.

18. H.S. Abdelgader, H.S., **Najjar, M.F.** and Azabi, T.M., (2010) “Study of underwater concrete using two-stage (pre-placed aggregate) concrete in Libya”, Journal of Structural Concrete, Volume 11, Issue 3, September 2010, pages 161–165 , ISSN: 1464-4177, E-ISSN: 1751–7648.
19. Abdelgader, H.S., **Najjar, M.F.**, El-Baden, A.S. and Azabi, T.M., (2010) “A study on Underwater Concreting by Using Two-Stage (Pre-placed Aggregate) Concrete in Libya”, Proceedings of the 6th International RILEM Symposium on Self-Compacting Concrete & 4th North American Conference on the Design and Use of SCC, Sherbrooke. Canada.
20. Abdelgader, H. S. and **Najjar, M.F.**, (2009), “Advances in concreting methods, ”, Proceedings of the 1st International Conference on sustainable Built Environment Infrastructures in Developing Countries, Oran, Algeria, PP. 315-324.
21. **Najjar, M.F.** and Abdelgader, H.S., (2009), “ Underwater concreting by using two-stage (pre-placed aggregate) concrete,” Proceedings of the 1st International Conference on Concrete Technology, Tabriz, Iran, Paper Code No. CT0001.