

## Publications

### Civil and Environmental Engineering

#### Year 2021

##### Journals

1. Abu Obaida, F., El-Maaddawy, T., and El-Hassan, H. (2021) “Bond Behavior of Carbon Fabric-Reinforced Matrix Composites: Geopolymeric Matrix versus Cementitious Mortar”, *Buildings*, Vol. 11, No. 5, pp. 207.
2. Abujayyab, M.A., Hamouda, M., **Aly Hassan, A.** [Biological treatment of produced water: A comprehensive review and metadata analysis](#) 2021 *Journal of Petroleum Science and Engineering*
3. Ahmed, W. and **Zaneldin, E.**, (2021). “Undergraduate Research Program to Recycle Composite Waste.” *Education Sciences*, (Scopus Indexed-Q2).
4. Ahmed, W., Ahmed, S., Alnajjar, F. and **Zaneldin, E.** (2021) “Mechanical Performance of Three-Dimensional Printed Sandwich Composite with a High-Flexible Core.” *Journal of Materials: Design and Applications*. (Scopus Indexed-Q2). <https://doi.org/10.1177/14644207211011729>
5. Ahmed, W., **Zaneldin, E.**, Kabbani, S. (2021) “Fracture Mechanics Performance of Through-Thickness Crack of Polymeric 3D Printed Components.” *In: Lecture Notes in Mechanical Engineering*, Springer Singapore. (Scopus Indexed-Q4). Available at: <https://www.springerprofessional.de/en/fracture-mechanics-performance-of-through-thickness-crack-of-pol/18762872?searchResult=1.Zaneldin&searchBackButton=true>
6. **Albuquerque, F.D.B.** and Awadalla, D.M. *Safety Evaluation of Design Alternatives to Separate Freeway-Opposing Traffic*, *Traffic Injury Prevention*, DOI: 10.1080/15389588.2021.1965591, 2021.
7. Alzard, M., El-Hassan, H., and El-Maaddawy, T. (2021) “Environmental and Economic Life Cycle Assessment of Recycled Aggregates Concrete in the United Arab Emirates”, *Sustainability*, Vol. 13, No. 18, pp. 10348 (corresponding author).
8. Alzard, M., El-Hassan, H., and El-Maaddawy, T. (2021) “Life Cycle Inventory for the Production of Recycled Concrete Aggregates in the United Arab Emirates”, *International Journal of Civil Infrastructure*, Vol. 4, pp. 78-84 (corresponding author).
9. Awadalla, D.M. and Albuquerque, F.D.B. *Identification of Risk Factors Associated with Fatal Intersection Crashes and Assessment of the In-Service Safety Performance of Signalized Intersections and Roundabouts in Abu Dhabi*, Vol. 7, Issue 4, *Safety*, 2021.
10. Awadalla, D.M. and **Albuquerque, F.D.B.** *Impact of Roadside Design Compliance and Hazard Offset on the Risk of Single-Vehicle, Run-Off-Road Crash Fatalities*, *Journal of Injury Control and Safety Promotion*, DOI: 10.1080/17457300.2021.1942923, 2021.
11. Bawab, J., Khatib, J., El-Hassan, H., Assi, L., and Kirgiz, M. S. (2021) “Properties of Cement-Based Materials Containing Cathode-Ray Tube (CRT) Glass Waste as Fine Aggregates – A Review”, *Sustainability*, Vol. 13, No. 19, pp. 11529.
12. C. Cheng, N.A.K. Nandasena, B.W. Melville. 2021. Sensitivity of Tsunami Uplift Impact to Wharf Properties. *Mindanao Journal of Science and Technology*, Vol 19 (2), 126-144.
13. Cohen, G., Kreutzer, N., Mowat, K., **Aly Hassan, A.**, Dvorak, B. [Compliance with hand sanitizer quality during the SARS-CoV-2 pandemic: Assessing the impurities in an ethanol plant](#) 2021 *Journal of Environmental Management*
14. El-Ariss B, Mansour M, El-Maaddawy T. Effects of Web Height Reduction and Skew Angle Variation on Behavior of RC Inverted T-Beams. *Buildings*. **2021**; 11(10):451.

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15. El-Ariss, B., & Elkholy, S. (2021). Feasibility of Reusing Damaged Steel Beams in Temporary Structures. *Infrastructures*, 6(5), 69. <https://doi.org/10.3390/infrastructures6050069>
  16. El-Ariss, B., **Zaneldin, E.**, Ahmed, W. (2021). "Using Videos in Blended e-Learning for a Structural Steel Design Course." *Education Sciences*, 11(6), 290; <https://www.mdpi.com/2227-7102/11/6/290>. (Scopus Indexed-Q2).
  17. El-Hassan H, Hamouda M, El Maaddawy T, Maraqa M, Curriculum-based exit exam for assessment of student learning, *European Journal of Engineering Education*, 2021, DOI: 10.1080/03043797.2021.1920892.
  18. El-Hassan, H. and Elkholy, S. (2021) "Enhancing the Performance of Alkali-Activated Slag-Fly Ash Blended Concrete through Hybrid Steel Fiber Reinforcement", *Construction and Building Materials*, Vol. 113, pp. 125313 (corresponding author).
  19. El-Hassan, H., and Elkholy, S. (2021). Enhancing the performance of Alkali-Activated Slag-Fly ash blended concrete through hybrid steel fiber reinforcement. *Construction and Building Materials*, 311, 125313. <https://doi.org/10.1016/j.conbuildmat.2021.125313>
  20. El-Hassan, H., Hamouda, M., El-Maaddawy, T., and Maraqa, M. (2021) "Curriculum-based exit exam for assessment of student learning", *European Journal of Engineering Education*, Vol. 46, No. 6, pp. 849-873 (corresponding author).
  21. El-Hassan, H., Hussein, A., Medlly, J., and El Maaddawy, T. (2021) "Performance of Steel Fiber-Reinforced Alkali-Activated Slag-Fly Ash Blended Concrete Incorporating Recycled Concrete Aggregates and Dune Sand", *Buildings*, Vol. 11, No. 8, pp. 327 (corresponding author).
  22. El-Hassan, H., Medlly, J., and El-Maaddawy, T. (2021) "Properties of Steel Fiber-Reinforced Alkali-Activated Slag Concrete Made with Recycled Concrete Aggregates and Dune Sand", *Sustainability*, Vol. 13, No. 14, pp. 8017 (corresponding author).
  23. El-Hassan, H., Shehab, E., and Al-Sallamin, A. (2021) "Effect of Curing Regime on the Performance and Microstructure Characteristics of Alkali-Activated Slag-Fly Ash Blended Concrete", *Journal of Sustainable Cement-Based Materials*, Vol. 10, No. 5, pp. 289-317 (corresponding author).
  24. Hamouda M, Mustafa F, Maraqa M, Rizvi T, Hassan AA - Wastewater surveillance for SARS-CoV-2: Lessons learnt from recent studies to define future applications, *Science of The Total Environment*, 759, 143493, 2021, DOI:10.1016/j.scitotenv.2020.143493.
  25. Hu, X., Meneses, Y.E., **Aly Hassan, A.**, Stratton, J., Huo, S. [Application of alginate immobilized microalgae in treating real food industrial wastewater and design of annular photobioreactor: A proof-of-concept study](#) 2021 *Algal Research*
  26. Kachouh N, El-Maaddawy T, El-Hassan H, El-Ariss B. Shear Behavior of Steel-Fiber-Reinforced Recycled Aggregate Concrete Deep Beams. *Buildings*. 2021; 11(9):423. <https://doi.org/10.3390/buildings11090423>
  27. Kachouh, N., El-Hassan, H., and El-Maaddawy, T. (2021) "Influence of Steel Fibers on the Flexural Performance of Concrete Incorporating Recycled Concrete Aggregates and Dune Sand", *Journal of Sustainable Cement-Based Materials*, Vol. 10, No. 3, pp. 165-192 (corresponding author).
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  29. Kothari, M.S., **Aly Hassan, A.**, Shah, K.A [Three-dimensional electrochemical oxidation of recalcitrant dye using green iron microparticles](#) 2021 *Water (Switzerland)*
  30. Maraqa MA, Albuquerque FDB, Alzard MH, Chowdhury R, Kamareddine LA, El Zarif J, GHG emission reduction opportunities for road projects in the Emirate of Abu Dhabi: A scenario approach,

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31. Medlji, J., El-Hassan, H., and El Maaddawy, T. (2021) "Effect of Recycled Aggregate and Steel Fibers on the Mechanical Properties of Alkali-Activated Slag/Fly Ash Blended Concrete", ACI Special Publication, Vol. 349, pp. 210-223.
  32. Mollamohammada, S., **Aly Hassan, A.**, Dahab, M [Immobilized algae-based treatment of herbicide-contaminated groundwater](#) 2021 Water Environment Research
  33. Mollamohammada, S., **Aly Hassan, A.**, Dahab, M., Kumar, S. [A hybrid biological-adsorption approach for the treatment of contaminated groundwater using immobilized nanoclay-algae mixtures](#) 2021 Water (Switzerland)
  34. Najm, O., El-Hassan, H., and El-Dieb, A. (2021) "Ladle Slag Characteristics and Use in Mortar and Concrete: A Comprehensive Review", Journal of Cleaner Production, Vol. 288, pp. 125584 (corresponding author).
  35. Najm, O., El-Hassan, H., El-Dieb, A., and Aljassmi, H. (2021) "Utilization of a Bayesian Network Algorithm to Predict the Compressive Strength of Concrete", International Journal of Civil Infrastructure, Vol. 4, pp. 33-40 (corresponding author).
  36. O. Najm, H. El-Hassan, A.S. El-Dieb, "Ladle slag characteristics and use in mortar and concrete: A comprehensive review," Journal of Cleaner Production, 2021, 288, 125584.
  37. Shoaib, S., El-Hassan, H., El-Ariss, B. and El Maaddawy, T. (2021). Workability and Early-Age Strength of Recycled Aggregate Concrete Incorporating Basalt Fibers. *International Journal of Civil Infrastructure (IJCI)*, Volume 4. DOI: 10.11159/ijci.2021.010
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  39. Souzan M. Kabbani and **Essam K. Zaneldin**. (2021). "The Impact of Corporate Governance on the Profitability of Insurance Firms in Syria." *International Journal of Financial Research*, Vol. 12, No. 2, pp. 150-163. (Scopus Indexed-Q4). DOI: <https://doi.org/10.5430/ijfr.v12n2p150>
  40. Z. Xu, B. Melville, C. Whittaker, N.A.K. Nandasena, A. Shamseldin. 2021. Mitigation of tsunami bore impact on a vertical wall behind a barrier. *Coastal Engineering*, 164, 103833.
  41. Z. Xu, B. Melville, N.A.K. Nandasena, C. Whittaker, A. Shamseldin, F. Farvizi. 2021. Tsunami loads on slab bridges. *Coastal Engineering*, 165, 103853.
  42. Zafar, A.M., Javed, M.A., **Aly Hassan, A.**, Mehmood, K., Sahle-Demessie, E. [Recent updates on ions and nutrients uptake by halotolerant freshwater and marine microalgae in conditions of high salinity](#) 2021 Journal of Water Process Engineering
  43. Zafar, A.M., Javed, M.A., **Aly Hassan, A.**, Mohamed, M.M. [Groundwater remediation using zero-valent iron nanoparticles \(nZVI\)](#) 2021 Groundwater for Sustainable Development
  44. **Zaneldin, E.**, and Kabbani, S. (2021) "Online Education: Lessons Learned from Teaching Undergraduate Courses." *Turkish Online Journal of Qualitative Inquiry*, 12(6), pp. 9727-9736. <https://www.tojqi.net/index.php/journal/article/view/3502/2388>.
  45. **Zaneldin, E.**, Waleed Ahmed, Aya Mansour, Amged Al Hassan (2021) "Dimensional Stability of 3D Printed Objects Made From Plastic Waste Using FDM: Potential Construction Applications." *Buildings Journal*, 11(11), 516, (Scopus Indexed-Q1). <https://www.mdpi.com/2075-5309/11/11/516>

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1. Abu Obaida, F., El-Maaddawy, T., and El-Hassan, H. (2021) “Bond Behavior of Carbon Fabric-Reinforced Matrix Composites: Geopolymeric Matrix versus Cementitious Mortar”, Buildings, Vol. 11, No. 5, pp. 207.
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3. Ahmad Shehada, Said Elkholy, and Bilal El-Ariss, Numerical Progressive Collapse Analysis of RC Framed Structures. The 6th World Congress on Civil, Structural, and Environmental Engineering ;(CSEE'21), Virtual Conference, June 21 – 23, 2021 (Due to COVID'19 pandemic); DOI: 10.11159/icsect21.lx.105
4. Al Shanti S, El-Dieb A, Maraqa MA, Utilization of sewage sludge ash in self-compacted concrete, the 6th International Conference on Civil Structural and Transportation Engineering (ICCSTE'21), Niagara Falls, Canada, May 17-19, 2021.
5. Alnahhal, Z.H., Shaaban, M.F., Hamouda, M., Mokhtar, M., 2021. Optimal Operation of Power System Integrated with Reverse Osmosis Water Desalination, in: Proceedings of the 2021 6th International Symposium on Environment-Friendly Energies and Applications, EFEA 2021. <https://doi.org/10.1109/EFEA49713.2021.9406237>
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8. Anwar, F., H., Hamouda, M.A., El-Hassan, H., 2021. A Meta-Analysis on the Performance of Pervious Concrete with Partial Cement Replacement by Supplementary Cementitious Materials, in: 8th Zero Energy Mass Custom Home International Conference. Presented at the 8th Zero Energy Mass Custom Home International Conference, ZEMCH Network, Dubai, UAE, pp. 747–753.
9. Ashri, A., Issa, A. and Mwafy, A.M.\* , 2021, “Seismic assessment of contemporary versus old urban frame buildings”, Proceedings of International Structural Engineering and Construction, El-Baradei, S., Abodonya, A., Singh, A. and Yazdani, S. (eds.), Vol. 8, Issue 1, ISEC Press. DOI: 10.14455/ISEC.2021.8(1).STR-60, ISSN: 2644-108X
10. Awadalla, D.M., and **Albuquerque, F.D.B.** *Fatal Road Crashes in the Emirate of Abu Dhabi: Contributing Factors and Data-Driven Safety Recommendations*, [Transportation Research Procedia](#), Vol. 52, Pages 260-267, 2021.
11. Bawab, J., Khatib, J., El-Hassan, H., Assi, L., and Kirgiz, M. S. (2021) “Properties of Cement-Based Materials Containing Cathode-Ray Tube (CRT) Glass Waste as Fine Aggregates – A Review”, Sustainability, Vol. 13, No. 19, pp. 11529.
12. Cohen, G., Kreutzer, N., Mowat, K., **Aly Hassan, A.**, Dvorak, B. [Compliance with hand sanitizer quality during the SARS-CoV-2 pandemic: Assessing the impurities in an ethanol plant](#) 2021 Journal of Environmental Management
13. El-Hassan H, Hamouda M, El-Maaddawy T, Maraqa M, Student perceptions of curriculum-based exit exams in civil engineering education, EDUCON2021 – IEEE Global Engineering Education Conference, Online, 21-23 April 2021.
14. El-Hassan, H. and Elkholy, S. (2021) “Enhancing the Performance of Alkali-Activated Slag-Fly Ash Blended Concrete through Hybrid Steel Fiber Reinforcement”, Construction and Building Materials, Vol. 113, pp. 125313 (corresponding author).

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15. El-Hassan, H., Hamouda, M., El-Maaddawy, T., and Maraqa, M. (2021) “Curriculum-based exit exam for assessment of student learning”, *European Journal of Engineering Education*, Vol. 46, No. 6, pp. 849-873 (corresponding author).
16. El-Hassan, H., Hamouda, M., Maaddawy, T.E., Maraqa, M., 2021. Student Perceptions of Curriculum-Based Exit Exams in Civil Engineering Education, in: 2021 IEEE Global Engineering Education Conference (EDUCON). Presented at the 2021 IEEE Global Engineering Education Conference (EDUCON), pp. 214–218. <https://doi.org/10.1109/EDUCON46332.2021.9454016>
17. El-Hassan, H., Hussein, A., Medlly, J., and El Maaddawy, T. (2021) “Performance of Steel Fiber-Reinforced Alkali-Activated Slag-Fly Ash Blended Concrete Incorporating Recycled Concrete Aggregates and Dune Sand”, *Buildings*, Vol. 11, No. 8, pp. 327 (corresponding author).
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19. El-Hassan, H., Shehab, E., and Al-Sallamin, A. (2021) “Effect of Curing Regime on the Performance and Microstructure Characteristics of Alkali-Activated Slag-Fly Ash Blended Concrete”, *Journal of Sustainable Cement-Based Materials*, Vol. 10, No. 5, pp. 289-317 (corresponding author).
20. Elkholy, S., Shehada, A., & El-Ariss, B. Effect of Beam Design on Progressive Collapse Resistance of RC Framed Structures. In 6th World Congress on Civil, Structural, and Environmental Engineering (CSEE'21), Virtual Conference – June 21 – 23, 2021.
21. Elzaher, A.H., and **Albuquerque, F.D.B.** *Signalized Intersections and Roundabouts: An In-Service Safety Performance Evaluation in Abu Dhabi*, *Transportation Research Procedia*, Vol. 52, Pages 268- 275, 2021.
22. F. Karim, N.A.K. Nandasena. 2021. Effectiveness of coral reefs for marine flood reduction. Proceedings of International Conference on Sustainable Environment and Urban Infrastructure 2022 - 2022 Advances in Science and Engineering Technology (ASET).
23. Ghazal, H. and Mwafy, A.M.\* , 2021, “Verification of Modeling Approach of RC Bridges for Seismic Assessment”, The UAE Graduate Students Research Conference (GSRC 2021), 14 June 21, UAE.
24. Ghazi, S., Elkholy, S., Godat, A. (2021) Finite Element Modelling of Externally-Prestressed Concrete Girders, 7th World Congress on Civil, Structural, and Environmental Engineering (ICSECT'21), Virtual Conference – October 24 – 26, 2021
25. Hamouda, M., al Mansoori, J., al Nuaimi, M., Alsaedi, M., al Shamsi, M., 2021. An investigation of greywater onsite reuse potential in an arid environment, in: Proceedings of International Structural Engineering and Construction. p. AAW-02-1-AAW-02-6. [https://doi.org/10.14455/ISEC.2021.8\(1\).AAW-02](https://doi.org/10.14455/ISEC.2021.8(1).AAW-02)
26. Hamouda, M., Mustafa, F., Maraqa, M., Rizvi, T., **Aly Hassan, A.** [Wastewater surveillance for SARS-CoV-2: Lessons learnt from recent studies to define future applications](#) 2021 *Science of the Total Environment*
27. Hu, X., Meneses, Y.E., **Aly Hassan, A.**, Stratton, J., Huo, S. [Application of alginate immobilized microalgae in treating real food industrial wastewater and design of annular photobioreactor: A proof-of-concept study](#) 2021 *Algal Research*
28. Ibrahim, N., Elkholy, S., Godat, A. (2021) Finite Element Simulation of Reinforced Concrete Beams under Fatigue Loading, 7th World Congress on Civil, Structural, and Environmental Engineering (ICSECT'21), Virtual Conference – October 24 – 26, 2021
29. Joseph, R., Mwafy, A.M.\* and Alam, M.S., 2021, “Comparative seismic performance assessment of UHPC jacketing and SCED bracing techniques”, *Proceedings of International Structural Engineering*

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30. Joseph, R., Mwafy, A.M. \*, 2021, “Assessment of Seismic Risk Mitigation Alternatives for Concrete Buildings in the UAE”, Proceedings of the 6th International Conference on Engineering Geophysics, Oct. 25-28, Al Ain, UAE.
  31. Kachouh, N., El-Hassan, H., and El-Maaddawy, T. (2021) “Influence of Steel Fibers on the Flexural Performance of Concrete Incorporating Recycled Concrete Aggregates and Dune Sand”, Journal of Sustainable Cement-Based Materials, Vol. 10, No. 3, pp. 165-192 (corresponding author).
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  33. Kothari, M.S., **Aly Hassan, A.**, Shah, K.A [Three-dimensional electrochemical oxidation of recalcitrant dye using green iron microparticles](#) 2021 Water (Switzerland)
  34. Maraqa M., Aly HA, Hamouda M, El-Hassan H, Eldieb A, Student perceptions of emergency remote civil engineering pedagogy, EDUCON2021 – IEEE Global Engineering Education Conference, Online, 21-23 April 2021.
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  42. Said Elkholy, Ahmad Shehada, and Bilal El-Ariss, Effect of Beam Design on Progressive Collapse Resistance of RC. The 6th World Congress on Civil, Structural, and Environmental Engineering ;(CSEE'21), Virtual Conference, June 21 – 23, 2021 (Due to COVID'19 pandemic); DOI: 10.11159/icsect21.lx.110
  43. Said Elkholy, Ahmad Shehada, and Bilal El-Ariss, Numerical Simulation as Alternative to Progressive Collapse Destructive Tests. 8<sup>th</sup> Zero Energy Mass Custom Home (ZEMCH) International Conference Proceedings, 26-28 October, 2021, Dubai, United Arab Emirates.
  44. Shehada, A., Elkholy, S., & El-Ariss, B. (2021) Numerical Simulation as Alternative to Progressive

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  49. **Zaneldin, Essam** and Kabbani, Souzan. “Online Education: Lessons Learned from Teaching Undergraduate Courses.” *4<sup>th</sup> International Conference on Multi-Disciplinary Research Studies and Education (ICMDRSE -2021)*, June 29 – 30, 2021, Kuala Lumpur, Malaysia.

### Book Chapters

1. Kamareddine LA and Maraqa MA, Chapter 22 - Lifecycle assessment of aquaponics, In Mohamed, A.M.O., Paleologos, E., and Howari, F. “Pollution Assessment for Sustainable Practices in Applied Sciences and Engineering”, 1st edition, Elsevier, 2021, pp. 1038-1108, ISBN-13: 978-0-12-809582-9.
2. Khan Q., Maraqa MA, and Mohamed AMO, Chapter 17 - Inland desalination: Techniques, brine management and environmental concerns, In Mohamed, A.M.O., Paleologos, E., and Howari, F. “Pollution Assessment for Sustainable Practices in Applied Sciences and Engineering”, 1st edition, Elsevier, 2021, pp. 871-918, ISBN-13: 978-0-12-809582-9.
3. M. Maraqa, M. Hamouda, H. El-Hassan, A. El-Dieb, A. A. Hassan “Student perceptions of emergency remote civil engineering pedagogy,” 2021 IEEE Global Engineering Education Conference (EDUCON) 2021, 21-23 Apr. 2021, Vienna, Austria (online), pp. 577-581, doi: 10.1109/EDUCON46332.2021.9454017.
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