

# Publications

## Civil and Environmental Engineering Department

Year 2017

### Journals

1. D.M. Kanaan, Sh.H. Aboubakr, A.S. El-Dieb, M.M. Reda Taha, "High Performance Concrete Incorporating Ceramic Waste Powder as Large Partial Replacement of Portland Cement," *Construction and Building Materials*, 2017, Vol.144, pp.35-41. doi: 10.1016/j.conbuildmat.2017.03.115.
2. M.M. El Gamal, A.S. El-Dieb, A.M.O. Mohamed, K.M. El Sawy, "Performance of Modified Sulfur Concrete Exposed to Actual Sewerage Environment with Variable Temperature, Humidity and Gases," *Journal of Building Engineering*, 2017, Vol.11, pp.1-8. doi: 10.1016/j.jobee.2017.03.009. (Corresponding Author)
3. M.M. Reda Taha, A.S. El-Dieb, M.L. Nehdi, "Recycling Tire Rubber in Cement-Based Materials," *ACI SP-314 - Eco-Efficient and Sustainable Concrete Incorporating Recycled Post-Consumer and Industrial By-products*, 2017.
4. **A. GODAT**, F. CERONI, M. PECCE AND O. CHALLAL (2017). "Evaluation of FRP-to-Concrete Anchored Joints Designed for FRP Shear-Strengthened RC T-Beams", *Composite Structures*, 176, 481-495.
5. El-Hassan, H. and Kianmehr, P., (2017) "Pervious Concrete Pavement Incorporating GGBS to Alleviate Pavement Runoff and Improve Urban Sustainability", *Road Materials and Pavement Design*, Vol. 19, No. 1, pp. 167-181.
6. El-Hassan, H., El-Maaddawy, T., Al-Sallamin, A., and Al-Saidy, A. (2017) "Performance Evaluation and Microstructural Characterization of GFRP Bars in Seawater-Contaminated Concrete", *Construction and Building Materials*, Vol. 147, pp. 66-78.
7. Zanelidin, E. (2017). "Modelling and Simulation of Complex Repetitive Construction Operations." *International Journal of Simulation and Process Modelling*, InderScience, Vol. 12, Issue 5, pp. 408-418.
8. Li, Z., Sahle-Demessie, **Aly Hassan, A.**, Pressman, J., Sorial, G., Han C., (2017). "Effects of source and seasonal variations of natural organic matters on the fate and transport of CeO<sub>2</sub> nanoparticles in the environment." *Science of Total Environment* 609: 1616-1626.
9. Botros, M., **Aly Hassan, A.**, Sorial, G. (2017) "Role of fungal biomass in n-hexane biofiltration." *Advances in Microbiology* 7: 673-688
10. Mezgebe, B., Sorial, G.A., Sahle-Demessie, E., **Aly Hassan A.**, Lu J., (2017) "Performance of Anaerobic Biotrickling Filter and Its Microbial Diversity for the Removal of Stripped Disinfection By-products" *Water Air Soil Pollution* 228: 437.
11. Mwafy, A., and Elkholy, S. (2017). Performance assessment and prioritization of mitigation approaches for pre-seismic code structures. *Advances in Structural Engineering*, 20(6), 917-939
12. Nurul Hassan, M., and Hawas, Y.E. (2017) "A Methodology for Rearranging Transit Stops for Enhancing Transit Users Generalized Travel Time." *Journal of Traffic and Transportation Engineering*, 4(10), pp. 14-30, DOI: 10.1080/19427867.2016.1157132. (Corresponding Author)
13. El-Sayed, H., Thandavarayan, G. and Hawas, Y. (2017) "A Cost-Effective Route Guidance Method for Urban Areas Using Histograms" *Wireless Communications and Mobile Computing*, Volume 2017, Article ID 4507352, <https://doi.org/10.1155/2017/4507352>
14. Yaser E. Hawas & Faisal Ahmed (2017) A binary logit-based incident detection model for urban traffic networks, *Transportation Letters*, 9:1, pp. 49-62, DOI:10.1080/19427867.2016.1157132 (First and Corresponding Author)
15. Chowdhury, Rezaul K., Jameelu S. Abaya, Taoufik Tsiksi and Mohamad M. Mohamed. 2017. Greywater Quality Changes in Laboratory Scale Vegetative Biofiltration Prototypes. *Journal of Water Management Modeling* 26 (C434), 1-7

16. Mohamed M., A. Murad. And Chowdhury R., Evaluation of Groundwater Quality in the Eastern District of Abu Dhabi Emirate, UAE, *Bulletin of Environmental Contamination and Toxicology* 98 (3), 385-391, 2017.
17. Elmahdy, S. I., Mohamed, M. M. (2017). Monitoring and analyzing the Emirate of Dubai's land use/land cover changes: an integrated, low-cost remote sensing approach, *International Journal of Digital Earth*, 1-19, 2017
18. Mohamed M., SI Elmahdy.(2017) Fuzzy logic and multi-criteria methods for groundwater potentiality mapping at Al Fo'ah area, the United Arab Emirates (UAE): an integrated approach. *Geocarto International* 32 (10), 1120-1138, 2017
19. Mohamed M., SI Elmahdy. Remote sensing of the Grand Ethiopian Renaissance Dam: a hazard and environmental impacts assessment. *Geomatics, Natural Hazards and Risk*, 1-16, 2017.
20. MA Sowe, S Sadhasivam, MM Mohamed, S Mohsen. Modeling the mitigation of seawater intrusion by pumping of brackish water from the coastal aquifer of Wadi Ham, UAE. *Sustainable Water Resources Management*, 2017 1-17
21. Mwafy, A.M. and Khalifa, S, 2017, "Effect of Vertical Structural Irregularity on Seismic Design of Tall Buildings", *The Structural Design of Tall and Special Buildings (SCI, Impact factor: 2.204)*, Wiley, Vol 26(18), e1399. DOI: 10.1002/tal.1399.
22. Alwaeli, W., Mwafy, A.M., Pilakoutas, K. and Guadagnini, M., 2017, "A Methodology for Defining Seismic Scenario-Structure-Based Limit State Criteria for RC High-Rise Wall Buildings Using Net Drift", *Earthquake Engineering and Structural Dynamics (SCI, Impact factor: 3.419)*, Wiley, Vol. 46 (8), 1325-1344. DOI: 10.1002/eqe.2858
23. Alwaeli, W., Mwafy, A.M., Pilakoutas, K. and Guadagnini, M., 2017, "Multi-level nonlinear modeling verification scheme of RC high-rise wall buildings", *Bulletin of Earthquake Engineering (SCI, Impact factor: 2.406)*, Springer, Vol 15(5), 2035–2053. DOI: 10.1007/s10518-016-0056-8
24. Mwafy, A.M. and Mahmoud, H., 2017, "Implications of Adopting Different Force Reductions in Seismic Design of RC Buildings", *Int. J. Earthquake and Impact Engineering*, Vol. 2(1), 46–66. DOI: 10.1504/IJEIE.2017.10004348
25. Mwafy, A.M. and Elkholy, S., 2017, "Performance Assessment and Prioritization of Mitigation Approaches for Pre-Seismic Code Structures", *Advances in Structural Engineering (SCI, Impact factor: 1.32)*, SAGE, Vol. 20 (6), 917-939. DOI: 10.1177/1369433216667188
26. Albuquerque, F.D.B., Stolle, C.S., Sicking, D.L., Faller, R.K., Lechtenberg, K.A., and Emerson, E., "Optimal Guardrail Runout Lengths for Freeways", *Journal of Transportation Safety & Security*, Vol. 9, Issue 4, Pages 403-418, 2017.
27. Hossain Md. M. and Maraqa M.A., Reactive separation of boron using a liquid membrane of diol in vegetable oil, *Membrane Water Treatment* 8(1), 19-34, 2017.
28. Alkhalil, J., and El-Maaddawy, T. (2017). "Finite element modelling and testing of two-span concrete slab strips strengthened by externally-bonded composites and mechanical anchors." *Engineering Structures*, 147, 45-61.
29. Karam, E., Hawileh, R., El Maaddawy, T., and Abdalla, J. (2017). "Experimental investigations of repair of pre-damaged steel-concrete composite beams using CFRP laminates and mechanical anchors." *Thin-Walled Structures*, 112, 107-117.
30. Awani, O., El-Maaddawy, T., and Ismail, N. (2017). "Fabric-reinforced cementitious matrix: a promising strengthening technique for concrete structures." *Construction and Building Materials*, 132, 94-111.
31. Alkhalil, J., and El-Maaddawy, T. (2017). "Nonlinear flexural response of continuous concrete slab strips strengthened with near-surface-mounted composites." *ASCE Journal of Composites for Construction*, 21(1), 04016071-1 – 04016071-11.
32. El-Maaddawy, T. (2017). "Innovative assessment paradigm to enhance student learning in engineering education." *European Journal of Engineering Education*, 42(6), 1439-1454.
33. El-Maaddawy, T., and Deneen, C. (2017). "Outcomes-based assessment and learning: Trialling change in a postgraduate civil engineering course." *Journal of University Teaching & Learning Practice*, 14(1), Article 10.
34. Rovere, E. Casella, D.L. Harris, T. Lorscheid, N.A.K. Nandasena, B. Dyer, "Giant boulders and Last Interglacial storm intensity in the North Atlantic", *Proceedings of the National Academy of Sciences*, 2017, Vol.114 (46), pp. 12144-12149. doi.org/10.1073/pnas.1712433114.

35. C. Chen, B.W. Melville, N.A.K. Nandasena, A.Y. Shamseldin, L. Wotherspoon, "Mitigation effect of vertical walls on a wharf model subjected to tsunami bores", *Journal of Earthquake and Tsunami*, 2017, Vol. 11 (03). doi.org/10.1142/S179343111750004X.
36. C. Chen, B.W. Melville, N.A.K. Nandasena, F. Farvizi, "An Experimental Investigation of Tsunami Bore Impacts on a Coastal Bridge Model with Different Contraction Ratios", *Journal of Coastal Research*, 2017, Vol. 34 (2), pp. 460-469. doi.org/10.2112/JCOASTRES-D-16-00128.1.
37. N.B. Thuy, N.A.K. Nandasena, V.H. Dang, S. Kim, N.X. Hien, L.R. Hole, T.H. Thai, "Effect of river vegetation with timber piling on ship wave attenuation: investigation by field survey and numerical modeling", *Ocean Engineering*, 2017, Vol. (129), pp. 37-45. doi.org/10.1016/j.oceaneng.2016.11.004.

### Conferences

1. S.T. Aly, D.M. Kanaan, A.S. El-Dieb, M.M. Reda Taha, S. Abu-Eishah, "Ceramic Waste Powder, an Alternative Ingredient for a Greener Concrete," the 9th International Conference in Structural Engineering and Construction (ISEC-9); Resilient Structures and Sustainable Construction, Valencia, Spain, 24-29 July 2017. (Corresponding Author)
2. A. Mwafy, A.S. El-Dieb, A. Lazkani, "Behavior of Expansive Concrete-Filled Steel Tubular Columns under Axial Loadings," the 9th International Conference in Structural Engineering and Construction (ISEC-9); Resilient Structures and Sustainable Construction, Valencia, Spain, 24-29 July 2017.
3. M.M. El-Gamal, A.S. El-Dieb, K.M. El-Sawy, A.M.I. Sweedan, A.M.O. Mohamed, "Production of Durable and Cost-Effective Sewer Pipes using Petroleum and Industrial Waste By-Products," International Conference on Advances in Sustainable Construction Materials and Civil Engineering Systems (ASCMCES-17), Sharjah, UAE, 18-20 Apr. 2017. (DOI: 10.1051/mateconf/201712003013)
4. S.T. Aly, A.S. El-Dieb, M.M. Reda Taha, "Eco-Self-Compacting Concrete with Improved fresh and Durability Characteristics," the 11th High-Performance Concrete Conference and the 2nd Concrete Innovation Conference, Tromsø, Norway, 6-8 Mar. 2017. (Corresponding Author)
5. D.M. Kanaan, A.S. El-Dieb, "Ceramic Waste Powder from Landfill to High-Performance Concrete," the 11th High-Performance Concrete Conference and the 2nd Concrete Innovation Conference, Tromsø, Norway, 6-8 Mar. 2017. (Corresponding Author)
6. **A. GODAT**, A. ALKAABI, D. MOHAMMED, H. ABUODAH AND F. ALKATHIRI (2017). "FRP Pultruded Members for Sustainable Domestic Buildings in UAE", *The 11th International Conference on Composite Science and Technology (ICCST11)*, April 4-6, Sharjah, UAE.
7. El-Hassan, H. and Ismail, N., "Performance Evaluation of Lightweight Geopolymer Concrete", 10th ACI/RILEM International Conference on Cementitious Materials and Alternative Binders for Sustainable Concrete (ICCM 2017), October 2017, Montreal, Canada.
8. El-Hassan, H., Ismail, N., Al Hinaii, S., Alshehhi, A., Al Ashkar, N., "Effect of GGBS and Curing Temperature on Microstructure Characteristics of Lightweight Geopolymer Concrete", *Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)*, April 2017, Sharjah, UAE.
9. Ismail, N., Mansour, M., El-Hassan, H., "Experimental Study on Lightweight Fly Ash-Slag Blended Geopolymer Concrete Incorporating Dune Sand", *International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)*, April 2017, Sharjah, UAE.
10. Hassan, H. and Kianmehr, P., "Sustainability assessment and physical characterization of pervious concrete pavement made with GGBS", *International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)*, April 2017, Sharjah, UAE.
11. Abou El-Hamd, O.R, Sweedan, A.M.I. and El-Sawy, K.M. (2017) "Structural Behavior of HFRP-Steel Double-Lap Joints with FRP Bolts, Proceedings of the 2nd World Congress on Civil, Structural, and Environmental Engineering, CSEE'17,

- 2-4 April, Barcelona, Spain, Paper No. ICSENM 103.
12. El Gamal, M., Mohamed, A., El-Dieb, A., Sweedan, A.M.I., and El-Sawy, K. (2017) "Production of Durable and Cost Effective Sewer Pipes Using Petroleum and Industrial Waste By-Products", Proceedings of the International Conference on Advances in Sustainable Construction Materials and Civil Engineering Systems, ASCMCES-17, 18-20 April, Sharjah, United Arab Emirates, Paper No. ASCMCES-140.
  13. Zaneldin, E. and Sivaloganathan, S. (2017). "A Framework for the Selection of Heavy Construction Equipment." Proceedings of the American Society for Engineering Management 2017 International Annual Conference (ASEM 2017), October 18-21, 2017, Huntsville, Alabama, USA.
  14. Sivaloganathan, S., Al Naqbi, A., and Zaneldin, E. (2017). "Evidence Needed to Destroy and Replace Machining Capability." Proceedings of the American Society for Engineering Management 2017 International Annual Conference (ASEM 2017), October 18-21, 2017, Huntsville, Alabama, USA.  
Zaneldin, E., Shekfa, M. I., Alnaqbi, A. H., and Ahmed, W. K. (2017). "Teaching Engineering Economy Using Internet." Proceedings of the 45th Annual Conference of the European Society for Engineering Education (SEFI 2017), September 18-21, 2017, Angra do Heroismo, Terceira Island, Azores; Portugal, pp. 803-810.
  15. Elkholly, S. and El-Ariss, B., (2017) "Increasing Robustness of RC Structures under Column Loss Scenario" Proceedings of the 9th International Structural Engineering and Construction Conference, Valencia, Spain 24-29 July, 2017.
  16. Hamouda, M.A. (2017) Risk considerations for point-of-use drinking water treatment. The International Conference on Water, Informatics, Sustainability & Environment, Ottawa, Canada, July 3-5 2017.
  17. Aman Mwafy, Sayed Khalifa, and Bilal El-Ariss, "Impact of Predicting Brittle Failure Modes on Selection of Limit States of Vertically-Irregular Tall Buildings," The Ninth International Structural Engineering and Construction Conference on Resilient Structures and Sustainable Construction, Valencia, Spain, 24-July 29, 2017.
  18. Al-Nahyan, M.T., Sohal, A.S., Fildes, B.N. and Hawas, Y.E (2017) "The Dubai-Fujairah Highway Project: A Preliminary Assessment of its Completion and Operation." Proceedings of the 2017 International Conference on Organization and Management (ICOM 2017), November 19-20 2017, Abu Dhabi, UAE
  19. Maraqa, M, Hawas, Y. and Alam, MD., El Zarif, J and Aljunadi, K. (2017) "Laboratory testing of different window design cases for noise transmission" Proceedings of the 2017 International Joint Conference on Civil and Mechanical Engineering, Hong Kong, December 15-18, 2017
  20. Al Nahyan, M.T., Hawas, Y.E., Raza, M., Al Jassmi, H. and Maraqa, M.A. (2017) "A Fuzzy-based Decision Support System for Ranking the Delivery Methods of Mega Projects" Proceedings of the EURAM 2017 conference, Glasgow, UK, June 2017.
  21. Hawas, Y. and Al Nahyan, M.T. and Raza M. (2017). 'Mega-Project Delivery Methods: A Framework For Development of A Decision Support System,' Proceedings of the 3rd International Conference on Civil and Building Engineering Informatics (ICBEI 2017) in conjunction with 2017 Conference on Computer Applications in Civil and Hydraulic Engineering, Taipei, Taiwan, April 19-21, 2017.
  22. Mohamed M., In-situ biodegradation of contaminated groundwater aquifers using slow-releasing oxygen sources. 6th International Conference on Sustainable Energy, Engineering, and Environment. July 2017, Newcastle Upon Tyne, UK
  23. M. Sowe, M. Mohamed and M. Sherif, Modeling and Evaluation of the Groundwater Flow in the Coastal Aquifer of Wadi Ham, UAE. 7th International Conference On Water, Energy & Environment, (ICWEE 2017), American University Of Sharjah, United Arab Emirates, Feb 28-Mar 2, 2017.
  24. H. Younis. M. Mohamed Water Demand Forecasting Using the IWR-MAIN Constant Use Rates Model. 7th International Conference On Water, Energy & Environment (ICWEE 2017), American University Of Sharjah, United Arab Emirates, Feb 28-Mar 2, 2017.
  25. S. Sadhasivam M. Mohamed. Evaluation of Artificial Storage and Recovery at the Western part of Abu Dhabi Emirate.

- 7th International Conference On Water, Energy & Environment (ICWEE 2017), American University Of Sharjah, United Arab Emirates, Feb 28-Mar 2, 2017.
26. Mwafy, A.M. and Almurad, 2017, "Experimentally Verified Vulnerability Relationships for the Seismic Loss Estimation of the Built Environment in the UAE", Proceedings of the 4th International Conference on Engineering Geophysics, Oct. 9-12, Al Ain, UAE.
  27. Issa, A.S., Mwafy, A.M., Alam, M.S., 2017, "Seismic Vulnerability Assessment of Pre-Code Frame Building Retrofitted Using Buckling Restrained Braces", 6th International Conference on Engineering Mechanics and Materials, CSCE 2017, May 31 - June 3, Vancouver, British Columbia, Canada.
  28. Mwafy, A.M., Khalifa, S. and El-Ariss, B., 2017, "Impact of Predicting Brittle Failure Modes on the Selection of Limit States of Vertically Irregular Tall Buildings", the Ninth International Structural Engineering and Construction Conference, 24-29 July, Valencia, Spain.
  29. Mwafy, A.M. and Khalifa, S., 2017, "Impacts of Vertical Irregularity on the Seismic Design of High-Rise Buildings", Proceedings of the 16th World Conference on Earthquake Engineering, 9-13 January, Santiago, Chile.
  30. Ashri, A. and Mwafy, A.M., 2017, "Assessment of Seismic Design Coefficients for Different Structural Systems of Buildings", Proceedings of the 16th World Conference on Earthquake Engineering, 9-13 January, Santiago, Chile.
  31. Alwaeli, W., Mwafy, A.M., Pilakoutas, K. and Guadagnini, M., 2017, "Performance Criteria for RC High-Rise Wall Buildings Exposed to Varied Seismic Scenarios", Proceedings of the 16th World Conference on Earthquake Engineering, 9-13 January, Santiago, Chile.
  32. Chowdury, R., Maraqa, M., Mauga, T., Albuquerque, F., Alzard, M., and Khan, Q., "Carbon Emissions from roads: Model Development and Case Studies", Conference Proceedings of the 5th International Road Federation Middle East & North Africa Regional Congress & Exhibition, Dubai, UAE, October, 2017.
  33. Albuquerque, F.D.B., "Retrofitting Urban Streets: A Real-World Application", Conference Proceedings of the 5th International Road Federation Middle East & North Africa Regional Congress & Exhibition, Dubai, UAE, October, 2017.
  34. Maraqa MA, Swar Aldahab EZ, Ghanma M and Al Kaabi SK, Optimization of fuel consumption for municipal solid waste collection in Al Ain city, UAE. International Joint Conference of Civil and Mechanical Engineering, Hong Kong, Dec. 15-18, 2017.
  35. Awani, O., El-Maaddawy, T., El Refai, A., and Ismail, N. (2017). "Flexural behavior of concrete T-beams strengthened with fabric-reinforced cementitious matrix." 6th Asia-Pacific Conference on FRP in Structures (APFIS2017), 19 – 21 July, Singapore.
  36. Ismail, N., El-Maaddawy, T., Najmal, A., and Khattak, N. (2017). "Diagonal tension testing of as-built and fabric reinforced cementitious matrix strengthened masonry panels." 16th World Conference on Earthquake (16WCEE 2017), 9 – 13 January, Santiago Chile.
  37. El-Maaddawy, T. (2017). "Enhancing learning of engineering students through self-assessment." Proc. of 8th IEEE Global Engineering Education Conference (EDUCON 2017), Challenging the Transition from the Classic to the Emerging in the Engineering Education, 25-28 April, Athens, Greece, 86-91.
  38. El-Maaddawy, T. (2017). "Learning through hands-on experiments and computer-aided simulations in a senior-level engineering design course." Proc. of 8th International Forum on Engineering Education (IFEE2017). Quality Assurance in Engineering Education. 18-20 April, Sharjah, UAE.
  39. A. Rovere, D. Harris, E. Casella, T. Lorscheid, P. Stocchi, N. Nandasena, "Superstorms at the end of the Last Interglacial (MIS 5e)? Modeling paleo waves and the transport of giant boulders", 19th EGU General Assembly, proceedings from the conference, Vienna, Austria, 23-28 April. 2017.

*Book Chapters*

1. Hawas Y.E., Al-Nahyan M.T. (2017) A Fuzzy-Based Approach to Estimate Management Processes Risks. In: Meier A., Portmann E., Stoffel K., Terán L. (eds) The Application of Fuzzy Logic for Managerial Decision Making Processes. Fuzzy Management Methods. Springer, Cham. [https://doi.org/10.1007/978-3-319-54048-1\\_7](https://doi.org/10.1007/978-3-319-54048-1_7).
2. **Mwafy, A.M.** and Almurad, B., 2017, "Global Changes and Natural Disaster Management Geo-information Technologies, Chapter 14: Collapse assessment of substandard concrete structures for seismic loss estimation of the building inventory in the UAE", Saied Pirasteh and Jonathan Li (Eds), Springer, UK. ISBN 978-3-319-51843-5, DOI: 10.1007/978-3-319-51844-2\_14

*Patents*