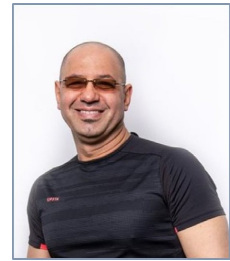


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Qualifications

Registered Professional Engineering - State of California, Board of Engineers and Land surveyors - State of California
Award Date: 15 Feb 2009

PhD, New laboratory test procedure for the enhanced calibration of constitutive models, Georgia Institute of Technology
Award Date: 6 May 2006

Master, Evaluation of pullout capacity of reinforced Ottawa sand under drained and undrained conditions, Purdue University
Award Date: 4 Aug 2000

Master, Numerical assessment of the effects of grout characteristics on settlement measurements in borehole extensometers, American University in Cairo
Award Date: 1 Jun 1999

Employment

Department of Civil Engineering
Faculty of Science and Engineering
29 Aug 2022 → present

Natural Resources and Environment Research Group
29 Aug 2022 → present

Adjunct Professor
Monash University Malaysia
Malaysia
1 Aug 2022 → 1 Aug 2024

Senior Lecturer
Monash University Malaysia
Malaysia
1 Sept 2014 → 1 Aug 2022

Lecturer
German University in Cairo
Egypt
1 Aug 2012 → 1 Aug 2014

Research outputs

Field based analysis of vegetation and climate impacts on the hydrological properties of urban vegetated slope
Kumar, M., Paramaputra, K., Mousa, A., Kong, S. Y., Garg, A. & Anggraini, V., 5 Mar 2025, In: Scientific Reports. 15, 7702, 7702.

Comparative Analysis of Asphalt Pavement Condition Prediction Models
Radwan, M. M., Zahran, E. M. M., Dawoud, O., Abunada, Z. & Mousa, A., Jan 2025, In: Sustainability (Switzerland). 17, 1, 109.

A new large-scale shear apparatus for testing geosynthetics-soil interfaces incorporating thermal condition

Chao, Z., Fowmes, G., Mousa, A., Zhou, J., Zhao, Z., Zheng, J. & Shi, D., Oct 2024, In: Geotextiles and Geomembranes. 52, 5, p. 999-1010 12 p., <https://doi.org/10.1016/j.geotexmem.2024.06.002>.

Extended discharge time of ready-mixed concrete: myth or necessity?

Mahgoub, M., Hussein, M. & Mousa, A., 26 Jul 2024, In: Construction and Building Materials. 437, 136913.

Enhancing Pavement Sustainability: Prediction of the Pavement Condition Index in Arid Urban Climates Using the International Roughness Index

Radwan, M. M., Mousa, A. & Zahran, E. M. M., Apr 2024, In: Sustainability. 16, 8, 3158.

The use of field water retention and ambient temperature for developing the soil-water characteristic curve

Liyanage, R., Mousa, A., Garg, A., Ahmad, F. & Anggraini, V., 2024, *Climate Change Adaptation from Geotechnical Perspectives - Select Proceedings of CREST 2023*. Hazarika, H., Haigh, S. K., Chaudhary, B., Murai, M. & Manandhar, S. (eds.). Fukuoka, Japan: Springer Science and Business Media Deutschland GmbH, Vol. 447. p. 427-437 11 p. (Lecture Notes in Civil Engineering; vol. 447).

Utilization of coal bottom ash from thermal power plants as a cement replacement for building: A promising sustainable practice

Mousa, A., 1 Sept 2023, In: Journal of Building Engineering. 74, 106885.

Forecasting the moisture dynamics of a landfill capping system comprising different geosynthetics: A NARX neural network approach

Dassanayake, S. M., Mousa, A., Fowmes, G. J., Susilawati, S. & Zamara, K., Feb 2023, In: Geotextiles and Geomembranes. 51, 1, p. 282-292 11 p.

Modeling the Impact of Massive Open Online Courses (MOOC) Implementation Factors on Continuance Intention of Students: PLS-SEM Approach

Al-Mekhlafi, A. B. A., Othman, I., Kineber, A. F., Mousa, A. A. & Zamil, A. M. A., 1 May 2022, In: Sustainability (Switzerland). 14, 9, 5342.

Value-engineering methodology for the selection of an optimal bridge system

Mousa, A. A., Hussein, M. & Kineber, A., 1 Apr 2022, In: Transportation Research Record. 2676, 4, p. 483-498

Internal Instability in Soils: A Critical Review of the Fundamentals and Ramifications

Dassanayake, S. M., Mousa, A. A., Ilankoon, S. & Fowmes, G. J., Apr 2022, *Transportation Research Record*. 4 ed. SAGE Publications Ltd, Vol. 2676. p. 1-26 26 p.

Value-Engineering Methodology for the Selection of an Optimal Bridge System

Mousa, A. A., Hussein, M. & Kineber, A. F., Apr 2022, *Transportation Research Record*. 4 ed. SAGE Publications Ltd, Vol. 2676. p. 483-498 16 p.

Prediction of shear wave velocity in fine-grained soils from cone penetration test data: toward a global approach

Mousa, A. & Hussein, M., 14 Feb 2022, In: Transportation Research Record. 2676, 6, p. 565-582 18 p.

A flow-dependent estimation of constriction size distribution in gap-graded soils: an integrated statistical approach

Dassanayake, S. M. & Mousa, A., 2022, In: Geotechnique Letters. 12, 1, p. 46-54 9 p.

Genesis of transitional behaviour in geomaterials: a review and gap analysis

Mousa, A. & Youssef, T. A., 2021, In: Geomechanics and Geoengineering. 16, 4, p. 298-324 27 p.

Pilot field implementation of suction dredging for sustainable sediment management of dam reservoirs

Kantoush, S. A. & Mousa, A., 2021, In: Journal of Hydraulic Engineering. 147, 2, 13 p.

A critical review and gap analysis on the use of coal bottom ash as a substitute constituent in concrete
Gooi, S., Mousa, A. A. & Kong, D., 20 Sept 2020, In: Journal of Cleaner Production. 268, 121752.

Bacteria encapsulation using synthesized polyurea for self-healing of cement paste
Zamani, M., Nikafshar, S., Mousa, A. & Behnia, A., 20 Jul 2020, In: Construction and Building Materials. 249, 12, 12 p.

Shear wave velocity in the East Nile Delta clay: correlations with static CPT measurements
Fayed, A. & Mousa, A., Apr 2020, In: Geotechnical and Geological Engineering. 38, 2, p. 2303–2315

A statistical inference of hydraulic shear and clogging in internally unstable soils
Dassanayake, S. M., Mousa, A., Sheng, L. J. & Chian, C. C., Mar 2020, In: Geotechnique Letters. 10, 1, p. 67-72

Efficacy of treatments on coal bottom ash as a cement replacement
Gooi, S., Mousa, A. A. & Kong, D., 2020, *Recent Technologies in Sustainable Materials Engineering - Proceedings of the 3rd GeoMEast International Congress and Exhibition, Egypt 2019 on Sustainable Civil Infrastructures – The Official International Congress of the Soil-Structure Interaction Group in Egypt SSIGE*. Shehata, M., Anastasopoulos, G. & Norma, M. (eds.). Springer Science and Business Media B.V., p. 13-21 9 p. (Sustainable Civil Infrastructures).

Hydraulic Response of an Internally Stable Gap-Graded Soil Under Variable Hydraulic Loading: A Coupled DEM-Monte Carlo Approach
Dassanayake, S. M. & Mousa, A., 2020, *Innovative Solutions for Soil Structure Interaction - Proceedings of the 3rd GeoMEast International Congress and Exhibition, Egypt 2019 on Sustainable Civil Infrastructures – The Official International Congress of the Soil-Structure Interaction Group in Egypt SSIGE*. El-Naggar, H., El-Zahaby, K. & Shehata, H. (eds.). Springer Science and Business Media B.V., p. 25-33 9 p. (Sustainable Civil Infrastructures).

Probabilistic stability evaluation for wildlife-damaged earth dams: a Bayesian approach
Dassanayake, S. M. & Mousa, A., 2020, In: Georisk. 14, 1

Voids distribution of pavement filters subjected to permeating fines: A coupled DEM-statistical inference
Dassanayake, S. M., Mousa, A. & Kong, D., 29 Oct 2019, In: IOP Conference Series: Materials Science and Engineering. 652, 1, 12068.

Advanced damage detection technique by integration of unsupervised clustering into acoustic emission
Behnia, A., Chai, H. K., GhasemiGol, M., Sepehrinezhad, A. & Mousa, A., 1 Apr 2019, In: Engineering Fracture Mechanics. 210

A novel damage index for online monitoring of RC slabs under monotonic loading by integration of process controlling into acoustic emission technique
Behnia, A., Chai, H. K., Mousa, A. & Ravanfar, S. A., Mar 2019, In: Mechanical Systems and Signal Processing. 119, p. 547-560 14 p.

Voids distribution of pavement filters subjected to permeating fines: a coupled DEM-statistical inference
Dassanayake, S. & Mousa, A., 2019, *4th International Conference on Civil Engineering and Materials Science (ICCEMS 2019)* . Vol. 652.

Lightweight concrete in America: presence and challenges
Mousa, A., Mahgoub, M. & Hussein, M., Jul 2018, In: Sustainable Production and Consumption. 15, p. 131-144 14 p.

Revisiting the calibration philosophy of constitutive models in geomechanics
Mousa, A., Aug 2017, In: International Journal of Geomechanics. 17, 8, 14 p.

Plausible failure mechanisms of wildlife-damaged earth levees: insights from centrifuge modeling and numerical analysis
Saghaee, G., Mousa, A. & Meguid, M. A., 2017, In: Canadian Geotechnical Journal. 54, 10, p. 496-1508 13 p., 10.

Experimental evaluation of the performance of earth levees deteriorated by wildlife activities
Saghaee, G., Mousa, A. & Meguid, M. A., Feb 2016, In: Acta Geotechnica. 11, 1, p. 83-93 11 p.

The “gray zone”: fabric and consistency of natural transitional soils
Mousa, A., 2016, In: Arabian Journal of Geosciences. 9, 1, 39.

A business approach for transformation to sustainable construction: An implementation on a developing country
Mousa, A., 2015, In: Resources, Conservation and Recycling. 101, p. 9 -19 11 p.

Six Sigma DMAIC for shaking stagnant construction cultures – a conceptual perspective
Mousa, A., 2015, In: Journal of Civil Engineering and Environmental Sciences. 1, 1

A simple test method for rapid measurement of fines content in soils
Mousa, A., Mahgoub, M. & Wiszowaty, P., 2014, In: Geotechnical Testing Journal. 37, 2

A Survey-based vision for restructuring concrete business in the new residential communities in Egypt
Zidan, A., university, M. & Mahgoub, M., 1 Nov 2013, In: Industrial and Systems Engineering Review. 1, 2, p. 162-172

On the effects of animal burrows on the performance of homogeneous earthen structures
Saghaee, G., Meguid, M. & Bayoumi, A., 2012, *Canadian Geotechnical Conference- GeoManitoba 2012, Winnipeg, Manitoba*. Canadian Geotechnical Society, Vol. 1. 5 p.

On the evaluation of settlement measurements using borehole extensometers
Bayoumi, A., 2011, In: Geotechnical and Geological Engineering. 29, 1, p. 75-90 16 p.

Wildlife and safety of earthen structures: a review
Mousa, A. & Meguid, M., 2011, In: Journal of Failure Analysis and Prevention. 11, 4, p. 295-319 25 p.

Pullout capacity of a reinforced soil in drained and undrained conditions
Mousa, A., Bobet, A. & Lee, J., 2008, In: Finite Elements in Analysis and Design. 44, 9-10, p. 525-536 12 p.

Press/Media

Impacts

Rehabilitating Bridges with Lightweight Concrete
Mousa, A. (Participant)

Student theses