



Name: Dr. Taha Ahmed

Rank: Associate Professor - Civil Engineering

Personal Information

Nationality:	Egyptian
AU Joining Date:	22 Sep 2015
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Professional Information

Education:	• Ph.D.: Civil and Environmental Engineering, University of Iowa, Iowa City IA, USA, 2014. • Transportation Certificate, School of Urban and Regional planning, University of Iowa, Iowa City IA, USA, 2014. • MSc: Civil and Environmental Engineering, University of Nevada, Reno NV, USA, 2011. • B.E: Civil Engineering, Assiut University, Assiut, Egypt, 2002.
Specialization:	Transportation Infrastructure Systems.
Current Academic Position:	Associate Professor - Civil Engineering
Current Professional Positions:	• Professional Engineer (PE), Nevada Board of Professional Engineers and Land Surveyors, USA, October 2021-now. • Chartered Professional Engineer (CPEng), Engineers Australia (EA), Australia, March 2020-now. • Asia-Pacific Economic Cooperation (APEC) Registered International Engineer (IntPE (Aus), December 2021-now. • Fellow Member of Engineers Australia (FIEAus), Australia, 2019-now. • Vice President for Middle East region of international Society for Maintenance And Rehabilitation of Transportation infrastructure (iSMARTi), USA, 2016-now. • Member of the American Society of Civil Engineers (ASCE), USA, 2014-now. • Member of Transportation & Development Institute of ASCE, USA, 2014-now.

	- Registered Civil Engineer (RCE) at the Egyptian Syndicate of Engineers, Egypt, 2002-now. - Registered Civil Engineer (RCE) at Kuwait Society of Engineers, Kuwait, 2016-now.
Previous Administrative Position Held:	Deputy Head for Environmental Affairs and Community Outreach, Assiut, Institute for Irrigation and Surveying, Assiut, Egypt, 09/2006 – 06/2008.
Previous Academic Positions Held:	- Assistant Professor - Civil Engineering, Australian University (AU), Department of College of Engineering, 08/2017-05/2022. - Lecturer, Civil Engineering, Australian University, 09/2015 – 07/2017 - Postdoctoral Research Scholar, Public Policy Research Center, University of Iowa, Iowa City, USA, 08/2014 – 02/2015. - Graduate Research Assistant, Public Policy Research Center, University of Iowa, Iowa City, USA, 08/2011 – 08/2014. - Graduate Research Assistant, Western Regional Superpave Center (WRSC), Civil & Environmental Engineering Department, University of Nevada, Reno, Nevada, USA, 08/2009 – 08/2011.
Fellowships And Honors:	- Assiut University, Egypt: Annual Academic Excellence Scholarship for undergraduate students from year 1997 to 2002 (5 times). - Egyptian Engineers Syndicate, Egypt: Academic Excellence Award, 2002. - Fulbright Bi-national Commission, Department of State, USA (Visiting Instructor 08/2008-03/2009): Construction Management Program, Industrial Technologies Department, Kirkwood Community College, Cedar Rapids, Iowa, USA. - Asphalt Pavement Association of Iowa (APAI) Scholarship, fall 2012, and fall 2013. - R.F. & H. W. Poston Scholarship Fund, The University of Iowa, Spring 2013.
Teaching Experience:	Teaching courses and labs within the department of civil engineering: - Traffic Engineering (21SCVE421). - Traffic Engineering Lab (21SCVE425). - Roadway Design (15FCVE211). - Engineering Design Planning (project-based learning) (21SMCE323). - Engineering Design Management (project-based learning) (21SMCE324). - Technology Project Planning (Senior Project) (21SCVE410). - Technology Project Implementation (Senior Project) (21SCVE420).
Industrial And Technical Experience:	- Design Engineer, Mecca Engineering Consulting Office, Assiut, Egypt 10/2005 – 06/2008. - Site Engineer (First Lieutenant), Army Corps of Engineers, Ministry of Defense, Egypt, 01/2003 – 06/2005. - Site Engineer, Egyptian Company for Civil Constructions, Egypt, 10/2002 - 01/2003.
Research Interest:	- Transportation Infrastructure Systems. - Pavement/Materials Engineering. - Asphalt Mixtures. - Transportation Demand Analysis.

	Recycled Construction Materials.
Research Grants:	“Laboratory Evaluation of Carbon Fibre Reinforced Polymer (CFRP) Bars to Improve Joints in Natural Fibre Reinforced Concrete (NFRC) Pavements,” (Funded by Australian University and Idaho State University (4,000 KD (\$13,500)). GRANT_NUMBER: IRC-2023/2024-SRC-PR06) Role: <u>Principal Investigator.</u> “Novel AI-based Concrete Elasticity Determination using DIC Technology,” (Funded by Australian University and Idaho State University (4,000 KD (\$13,500)). GRANT_NUMBER: IRC-2023/2024-SRC-PR05) Role: <u>Co-Investigator.</u> “Effect of Raveling on the Performance of Hot Mix Asphalt under Arid Climatic Conditions: Case Study in Kuwait; Phase II: Implementing the Superpave Mix Design Method for Kuwaiti Roads. Phase III: Performance Life using Mechanistic-Empirical Analysis of Improved Asphalt Mixtures,” (Funded by Kuwait Foundation for the Advancement of Science (KFAS), 2021) (25,000 KD (\$83,000)). GRANT_NUMBER: CR20-15EV-01) Role: <u>Principal Investigator.</u> “Effect of Raveling on the Performance of Hot Mix Asphalt under Arid Climatic Conditions: Case Study in Kuwait; Phase I: Postmortem Evaluation of In-service Pavements,” (Funded by Kuwait Foundation for the Advancement of Science (KFAS), 2018) (10,866 KD (\$36,128)). GRANT_NUMBER: PR18-15EV-06) Role: <u>Principal Investigator.</u> “Investigation of the rheological and adhesive/cohesive characteristics of crumb rubber modified asphalt binders mixed with warm mix asphalt additive and antistripping agent,” (Funded by Kuwait Foundation for the Advancement of Science (KFAS), 2018) (11,800 KD (\$39,500)). GRANT_NUMBER: PN18-15EV-10. Role: <u>Principal Investigator.</u> “Modeling the Rutting Behavior of Asphalt Mixtures Obtained by Accelerating Testing Device Using Finite Element (FE) method,” (Funded by Australian University (AU), 2017) (seed fund, 1,500 KD (\$5,000)). GRANT_NUMBER: IRC-2017-18-COE-CE-PR03) Role: <u>Principal Investigator.</u> “Evaluating of Compressed Earth Blocks as a Sustainable Alternative in Kuwait Construction” (Kuwait Foundation for the Advancement of Science (KFAS), 2019) (12,655 KD (\$42,000)). GRANT_NUMBER: CR20-15EV-01 Role: <u>Co-Investigator.</u> “Investigating the Impact of Using Recycled Materials in Constructed Wetlands for Treating Industrial Wastewater,” (Kuwait Foundation for the Advancement of Science (KFAS), 2019) (13,950 KD (\$46,300)). GRANT_NUMBER: PN19-25EM-03) Role: <u>Co-Investigator.</u> “Evaluating Compressed Earth Blocks as a Sustainable Alternative of Construction in Kuwait through Large Scale Testing,” (Funded by Australian

	University (AU), 2019) (seed fund, 1,500 KD (\$5,000)). GRANT_NUMBER: IRC-2018/2019-COE-CE-PR02) Role: <u>Co-Investigator.</u>
Research and Publications including Journal and Books:	Journal Papers 1. Saad, A.S., Ahmed, T.A., Lakys, R. et al. In-plane structural performance of Compressed Earth Block walls strengthened with carbon fiber reinforced polymer under quasistatic loading. Innov. Infrastruct. Solut. 10, 281 (2025). https://doi.org/10.1007/s41062-025-02101-y 2. Saad, Ahmad S., Taha A. Ahmed, and Ali I. Radwan. "In-Plane Lateral Performance of AAC Block Walls Reinforced with CFPR Sheets," Buildings 12, no. 10, October 2022, 1680. https://doi.org/10.3390/buildings12101680 3. Waly, M.M., Ahmed, T., Abunada, Z., Mickovski, S.B., Thomson, C. "Constructed Wetland for Sustainable and Low-Cost Wastewater Treatment: Review Article," Land, August 2022, 11, 1388. https://doi.org/10.3390/land11091388 4. Rana Ezzdine Lakys, Ahmad Saad, Taha Ahmed, Mohammad Hany Yassi, "Investigating the drivers and acceptance of sustainable materials in Kuwait: A case study of CEB," Case Studies in Construction Materials, Volume 17, December 2022, e01330. 5. Mohamed. A. Mabrok, Ahmad Saad, Taha Ahmed and Hamad Alsayab, "Modelling and simulations of Water Network Distribution to Assess Water Quality: Kuwait as a Case Study," Alexandria Engineering Journal, Volume 61, Issue 12, December 2022, Pages 11859-11877. 6. A. S. Saad, T. A. Ahmed, M. H. Yassin, A. I. Radwan, and A. I. Ezzedine, "Out-of-Plane Structural Performance of Compressed Earth Block Walls Subject to Quasistatic Loading," Advances in Civil Engineering Materials, Vol. 11, No. 1 (2022). https://doi.org/10.1520/ACEM20210038 7. Taha Ahmed, Elie Y. Hajj, Dawoud S. Bahzad, Murugaiyah Piratheepan and Ahmed Warrag. Investigation of the Rheological and Bonding Characteristics of Crumb Rubber- Modified Asphalt Binders Mixed with Warm Mix Asphalt Additive and Antistrip Agent. International Journal of Pavement Research and Technology, 2021. https://doi.org/10.1007/s42947-021-00033-1 8. Taha Ahmed, Elie Y. Hajj, Ahmed Warrag and Murugaiyah Piratheepan. "Postmortem Evaluation of Accelerated Rate of Raveling of In-service Asphalt Pavements in Arid Climatic Conditions-Case of Kuwait," Case Studies in Construction Materials Journal, Volume 14, June 2021, e00533. 9. Taha Ahmed, Mohamed Salem, S Ahmad Saad, Abdel Rahman Alaqquad. "Improving the Traffic Flow in Hot Arid Climate Areas by Implementing a Monorail Light Rail Transit System: Case of Kuwait," American Journal of Engineering and Applied Sciences, Vol. 14 January 2021, pp 103-111. 10. Osama Dawoud, Taha Ahmed, Mahmoud Abdel-Latif, Ziyad Abunada. "A spatial Multi- Criteria Analysis Approach for Planning and Management of

Community-Scale Desalination Plants," Desalination Journal, Volume 485, 1 July 2020, 114426.

11. **Taha A. Ahmed**, Hosin "David" Lee, R. Christopher Williams. "Using a modified asphalt bond strength test to investigate the properties of asphalt binders with polyethylene wax- based warm mix asphalt additive," International Journal of Pavement Research and Technology, Volume 11, Issue 1, 2018, Pages 28-37, ISSN 1996-6814,"
12. Can Chen, R. Christopher Williams, **Taha Ahmed**, and Hosin Lee. "Quality Control/Quality Assurance Testing for Joint Density and Segregation of Asphalt Mixtures," Construction and Building Materials Journal, Vol. 47 May 2013, pp 80-85.
13. Hosin "David" lee, Thomas Glueckert, **Taha Ahmed**, Yongjoo Kim, Cheolmin Baek, and Sung-Do Hwang, "Laboratory Evaluation and Field Implementation of Polyethylene Wax- Based Warm Mix Asphalt Additive in USA," International Journal of Pavement Research and Technology, Vol.6 No.5, Sep. 2013, pp. 547-553.
14. **T. Ahmed**, E. Hajj, P. Sebaaly, and N. Majerus. "Influence of Aggregate Source and Warm- Mix Technologies on the Mechanical Properties of Asphalt Mixtures," Advances in Civil Engineering Materials 2, no. 1 (2013): 400 417. <https://doi.org/10.1520/ACEM20130072>.

Book Chapters

1. **Taha Ahmed**, Dawoud Bahzad, Abdullah Al-Marshed, Zein-Eddine Merouani and Mohamed Omar, "Evaluating the Characteristics of Crumb Rubber Modified Asphalt Binders Produced with Neat Bitumen-Case of Kuwait," Lecture Notes in Civil Engineering, Vol. 76, Chapter 39, Proceedings of the 9th International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV9), Zurich Switzerland, 1-3 July 2020.
2. **T. Ahmed**, and M H. Yassin. "Modeling the Rutting Behavior of Asphalt Mixtures Obtained by Accelerated Testing Device," Proceedings of the Gulf Conference on Sustainable Built Environment, March 2019, Kuwait, pp. 109-121.
3. M. Salem, **T. Ahmed**, A. Al-Sarmini, and S. El-Azzeh. "Exploiting Technologies in Facilities Management Operations of an Educational Facility," Proceedings of the Gulf Conference on Sustainable Built Environment, March 2019, Kuwait, pp. 501-514.
4. Muhannad Ismeik and **Taha Ahmed**. "Prediction of Geotechnical Properties of Lime-Stabilized Soils: Ongoing Research and Preliminary Results," Proceedings of the 3rd GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, November 2019, Cairo, Egypt, pp. 150-157.
5. **Taha Ahmed**, Hosin "David" Lee. "Evaluation of Laboratory and Field Warm Mix Asphalt Mixtures with High Contents of Reclaimed Asphalt Pavements," In: A.F. Nikolaidis (ed). Bituminous Mixtures and Pavements VI, 1st Edition, PP 623-628, CRC Press, June 2015. ISBN: 9780429225840. <https://doi.org/10.1201/b18538>

Paper Presentations at Professional Conferences:

1. **Ahmed, T.**; Saad, A.; Kazem, A.; Radwan, A.; AlMutairi, A.; Ashkanani, S. Large-Scale Test Setup of Concrete Pavement Slabs Jointed by Carbon Fiber-Reinforced Polymer Dowel Bars as Load Transfer Devices. Eng. Proc. 2023, 36, 21. <https://doi.org/10.3390/engproc2023036021>
2. **Ahmed, Taha**, Aditya Singh, Elie Hajj, and Ahmad Saad. 2023. "Performance Life Using Mechanistic–Empirical Analysis of Asphalt Mixtures in Arid Climatic Conditions—Case of Kuwait" Engineering Proceedings 36, no. 1:10. <https://doi.org/10.3390/engproc2023036010>
3. **Taha Ahmed**, Aditya Singh, Elie Hajj, and Ahmad Saad. "Modification of Mix Design Characteristics to Improve Performance of In-service Raveled Pavements in Arid Climatic Regions: Case of Kuwait," Proceedings of the ASCE International Airfield and Highway Pavements Conference (Pavements 2023), Austin, Texas, 14-17 June 2023.
4. Ahmad S Saad, **Taha A Ahmed**, Rana Ezzdine Lakys, Ali I Radwan, "Northern Kuwait Soil Evaluation in Producing Environmentally Friendly Blocks," Proceedings of the 7th World Congress on Civil, Structural, and Environmental Engineering (CSEE'22), 10-12 April 2022, Lisbon, Portugal (Virtual Conference).
5. Rana Ezzdine Lakys, Ahmad Saad, **Taha Ahmed**, "CEB as Potential Alternative Sustainable Material in Construction Industry: Survey on the Level of Acceptance in Kuwait," Proceedings of the 7th World Congress on Civil, Structural, and Environmental Engineering (CSEE'22), 10-12 April 2022, Lisbon, Portugal (Virtual Conference).
6. **T. Ahmed**, E. Y. Hajj, A. Warrag, and M. Piratheepan, "Evaluation of in-service ravelled asphalt pavements in Kuwait," Proceedings of International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), 3-7 August 2020, San Antonio, TX (Online), USA.
7. Yassin, Mohammad Hany; Lakys, Rana; **Ahmed, Taha**; Al-Refaei, Shafaq; Omar, Bader Al-Sayed; Altaher, Rose Shaker, "Optimizing the Thermal Resistance of Concrete Using the Palm Tree Fronds Fibers," Proceedings of the International Conference on Civil Infrastructure and Construction (CIC 2020), February 2-5, 2020, Doha, Qatar.
8. **Taha Ahmed**, Mohamed Salem, Yousef Alnajdi, and Sara AlShatti. "Conceptualized Monorail System in Arid Climatic Areas- Case Study in Kuwait," International Conference on Smart Cities July 17 – 19, 2019, Seoul, Korea.
9. Zein-Eddine Merouani, Staffan Hintze, **Taha Ahmed** and Sana Al-Azaa. "Anchored Pipe Systems in Stabilized Clay using Circular Plates," Proceedings of the International Conference on Smart Cities July 17-19, 2019, Seoul, Korea.
10. **Taha Ahmed**, Hosin Lee, and R. Christopher Williams. "Rheological and Adhesive/Cohesive Properties of Asphalt with Polyethylene Wax-based Warm Mix Asphalt Additive Using a Modified Bond Strength Test," 95th Transportation Research Board Annual Meeting, Washington DC, Jan 2016.
11. **T. A. Ahmed**, H. Lee, and C.M. Beak. "Evaluation of Laboratory and Field Warm Mix Asphalt Mixtures with High Contents of Reclaimed Asphalt

	Pavement," Proceedings of the 6th International Conference of Bituminous Mixtures & Pavements, Thessaloniki, June 2015, Greece. 12. Hosin "David" Lee and Taha Ahmed. "Temperatures and Field Densities of LAEDCAP Warm Mix," Proceedings of the Global Warm Mix Asphalt Workshop, Laboratory for Advanced Construction Technology (LACT), Iowa City IA, Sept. 2013, USA. 13. Taha Ahmed, Elie Y. Hajj, Peter E. Sebaaly, and Nate Majeru. "Influence of Aggregate Source on the Properties of WMA Mixtures in South Dakota," 92nd Transportation Research Board Annual Meeting, Washington DC, Jan 2013, USA.
College Service including committee Membership:	• Co-Chair of the Civil Engineering Department Academic Promotion and Appointment Committee. • Member of the Civil Engineering Department Validation and Moderation Committee. • Member of the Civil Engineering Department Research & Faculty Development Committee. • Member of the Civil Engineering Department Credit Transfer Committee. • Member of the Civil Engineering Department Accreditation Committee. • Member of the Civil Engineering Department Disciplinary Committee.
National Service:	NA
College Committees:	• AU Scientific Research Center Advisory Council: College of Engineering Representative (2021-2022.) • College of Engineering Library Representative (2021-2022).