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Engineering & Scientific Consulting

Kehinde Alawode, Ph.D., P.E.

Senior Engineer | Civil and Structural Engineering
Houston
+1-832-325-5745 | kalawode@exponent.com

Professional Profile

Dr. Kehinde J. Alawode is a licensed civil-structural engineer with expertise in structural design, forensic investigations, failure analysis and wind effects on structures. He brings a unique combination of consulting and research experience gained across the United States, United Kingdom and Nigeria.

His experience includes engineering evaluations of distressed structures and building envelopes, failure root cause analysis, aerial drone surveys, supporting complex litigation, and recommending conceptual repair solutions for a wide range of building and infrastructure systems.

Dr. Alawode's failure investigations have included differential foundation movements, façade veneer failures, and building envelope distress associated with design and/or construction deficiencies. Dr. Alawode uses advanced technologies such as aerial inspections, photogrammetry, and advanced non-destructive testing methods to support forensic investigations. His multidisciplinary background provides a strong foundation for the evaluation and rehabilitation of complex structural systems, enabling him to lead all aspects of investigations from collecting field evidence to complex engineering analysis to client-focused problem solving.

Dr. Alawode's academic training encompasses structural dynamics, finite element analysis, reliability and risk assessment, foundation engineering, design optimization, and advanced construction materials. His doctoral research focused on improving the resilience of civil infrastructure against extreme weather events. His dissertation was on wind-induced vibration and wind-driven rain effects on glazed curtain wall systems. He also conducted research on the impact of downbursts on electrical transmission lines. These studies were conducted at FIU's Natural Hazards Engineering Research Infrastructure (NHERI) Wall of Wind facility. He published his findings in peer-reviewed journals and presented them at national and international engineering conferences, advancing the profession's understanding of structural response under severe wind conditions.

Academic Credentials & Professional Honors

M.S., Civil Engineering, Florida International University, 2023

Ph.D., Civil Engineering, Florida International University, 2023

M.S., Structural Engineering, University of Leeds, 2018

M.S., Structural Materials Engineering, University of Ibadan, 2017

B.S., Civil Engineering, University of Ibadan, 2015

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Licenses and Certifications

Project Management Professional (PMP)

OSHA 10 Hour Outreach Training Program - General Industry

Academic Appointments

Graduate Research Assistant, Florida International University, 2019 - 2023

Graduate Assistant, University of Ibadan, Nigeria, 2016 – 2017

Graduate Assistant, Federal University of Agriculture Abeokuta, Nigeria, 2015 - 2016

Prior Experience

Project Engineer, Thornton Tomasetti, 2024 – 2026

Graduate Engineer, J. Murphy & Sons, 2019

Graduate Engineer, Ove Arup & Partners Nigeria, 2015

Professional Affiliations

American Society of Civil Engineers (Member)

Structural Engineering Institute of ASCE (Member)

Publications

Eissa M., K.J. Alawode, A. Elawady. (2026). "Aeroelastic response of undamaged and partially damaged transmission towers subjected to downburst-like outflows." Journal of Wind Engineering and Industrial Aerodynamics. Vol 270 (106357).

Eissa M., O. Metwally, K.J. Alawode, A. Elawady, G. Lori. (2025). "Performance of High-rise Building Façades under Wind Loading: A state-of-the-art review." Journal of Building Engineering, 114072.

Alawode K.J., A Elawady, S. J. Lee, A. G. Chowdhury and G. Lori. (2025). "Full-scale Dynamics and Water-tightness Tests of a Closed Cavity Double Skin Curtain Wall." Engineering Structures, 345, 121498.

Bakhtiari, A., K.J. Alawode, K.S. Vutukuru, G. Lori, A. Elawady, A.G. Chowdhury, S.J. Lee. (2024). "Wind-Induced Dynamic Behavior of Single-Skin Curtain-Wall System: A Comparative Numerical Study." Journal of Architectural Engineering, 30 (4), 04024032.

Okenyi, V. A., A.Q. Gbadamosi, O. Olawale, K.J. Alawode, and A. Labo-Popoola. (2023). "A Framework for Salvaging Megaprojects in Africa Based on a Case Study of a Refinery and Petrochemical Complex Project." Scientific African, 20, e01723.

Alawode, K. J, A. Elawady, Z. Azzi, and A.G. Chowdhury. (2023). "Dynamic Properties of an Aeroelastic Transmission Tower Subjected to Synoptic ABL and Downburst-like Outflows." Journal of Wind

Engineering and Industrial Aerodynamics. Vol 242 (105557).

Alawode, K. J., K. S. Vutukuru, A. Elawady, and A.G. Chowdhury. (2023). "Review of Wind Loading on Roof-to-wall Connections in Low-rise Light Wood-frame Residential Buildings." Journal of Wind Engineering and Industrial Aerodynamics, Vol 236 (105360).

Alawode, K. J., K. S. Vutukuru, A. Elawady, S.J. Lee, A.G. Chowdhury and G. Lori. (2023). "Wind-induced Vibration and Wind-driven Rain Performance of a Full-scale Single Skin Façade Unit with Vertical Protrusions." Journal of Architectural Engineering, 29(2): 04023003.

Alawode, K. J, K. S. Vutukuru, A. Elawady, S.J. Lee, A.G. Chowdhury and G. Lori. (2022). "Effects of Permeability on the Dynamic Properties and Weathertightness of Double Skin Curtain Walls." In Proc. Structures Congress 2022, Pp. 444-456. Atlanta, GA. April 20, 2022.

Presentations

Alawode, K. J, K. S. Vutukuru, Bakhtiari, A., A. Elawady, S.J. Lee, A.G. Chowdhury and G. Lori. (2022). High-Wind Performance of a Full-Scale Single Skin Curtain wall Unit with Vertical Protrusions. 14th Americas Conference on Wind Engineering, Lubbock, Texas.

Alawode, K. J, A. Elawady, A. Shafieezadeh, A.G. Chowdhury and Z. Azzi. (2022). Aeroelastic testing to examine the dynamic behavior of a single self-supported electrical transmission tower subjected to downburst wind loads. 14th Americas Conference on Wind Engineering, Lubbock, Texas.

Alawode, K. J, K. S. Vutukuru, A. Elawady, S.J. Lee, A.G. Chowdhury and G. Lori. (2022). Effects of Permeability on the Dynamic Properties and Weathertightness of Double Skin Curtain Walls. In Proc. Structures Congress 2022, Pp. 444-456. Atlanta, GA. April 20, 2022.

Peer Reviews

Frontiers in Built Environment