

Mohamad Eissa

Wind Engineer
CPP Wind Engineering Consultants
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EDUCATIONAL HISTORY

Florida International University, FL, USA. August 2022 – May 2026
Ph.D., Civil and Environmental Engineering. GPA: 4.00/4.00.
Major: Structural and Wind Engineering.

Ain Shams University, Cairo, Egypt. March 2015 – April 2020
M.S., Civil Engineering, **Major:** Structural Engineering.
Thesis title: Lateral Torsional Buckling Strength of Partial Corrugated-Web Steel Beams.

Ain Shams University, Cairo, Egypt. September 2009 – July 2014
B.S., Civil Engineering. Very Good Grade with an Honors Degree.

EMPLOYMENT HISTORY

CPP Wind Engineering Consultants, CO, USA. August 2026 – Present
Wind Engineer

Florida International University, FL, USA. August 2022 – June 2026
Research Graduate Assistant at the Civil and Environmental Engineering Department.

Florida International University, FL, USA. August 2022 – June 2026
Teaching Assistant at the Civil and Environmental Engineering Department.
Courses: Structural Analysis (CES 3100) – Steel Design (CES 4605) – Engineering Mechanics of Materials (EGM 3520)

Insurance Institute for Business & Home Safety (IBHS), SC, USA. (3-month internship) May 2025 – August 2025
Wind-driven rain fellow at the IBHS experimental facility

University of Genoa, Genoa, Italy. (4-month internship) August 2023 – January 2024
Visiting Ph.D. student at the Civil and Environmental Engineering department.
Responsibilities:

- Working closely with wind scientists with expertise in collecting and analyzing downburst wind events field data.
- Learning new simulation techniques for downburst winds to elevate the capabilities of the WOW (Wall of Wind).

Applied Engineering Company, Cairo, Egypt. May 2020 – August 2022
Outsource Steel Structure Design Consultant at the Structural Department.
Responsibilities:

- Design of special steel structures in Egypt and Qatar.
- Evaluating the old designs and proposing assessment reports.

Advanced Quality Systems, Doha, Qatar. August 2020 – June 2022
Outsource Steel Structure Design Consultant at the Structural Department.

Advanced Consultancy Center (ACC), Cairo, Egypt. May 2020 – December 2021

Dars Expertise House Consultants and Engineers, Giza, Egypt. July 2014 – April 2020
Steel Structure Design Engineer at the Structural Department.

LEADERSHIP and ACADEMIC ACTIVITIES

Chi Epsilon, American Civil Engineering Honor Society, FL, USA. Treasurer and Active member, FIU Chapter.	January 2023 – June 2026
Florida International University, FL, USA. International Peer Mentor, International Student Scholar Services.	January 2023 – May 2023
Florida International University, FL, USA. Member, Multi-Faith Council.	January 2023 – June 2026
United Nations Volunteers, USA. Graphic Designer, World Health Organization.	December 2016 – January 2017
Pirates, Student Activity, Cairo, Egypt. Multi-media Committee Head, Publications Section.	October 2012 – September 2013

PEER-REVIEWED JOURNAL ARTICLES

- Eissa, Mohamed, Kehinde J. Alawode, and Amal Elawady. "Aeroelastic response of undamaged and partially damaged transmission towers subjected to downburst-like outflows." *The Journal of Wind Engineering and Industrial Aerodynamics*, 2026.
- Eissa, Mohamed, Amal Elawady, Burlando, Massimiliano Burlando, and Maria Pia Repetto. "PIV-based analysis of experimentally simulated downburst-like wall jet outflows in a large-scale experimental facility: Flow characterization and future perspectives." *The Probabilistic Engineering Mechanics*, 2026 (in review).
- Eissa, Mohamed, Omar Metwally, Kehinde J. Alawode, Amal Elawady, and Guido Lori. "Performance of building façades under wind loading: A state-of-the-art review." *The Journal of Building Engineering*, 2025.
- Eissa, Mohamed, Haitham A. Ibrahim, and Amal Elawady. "Aeroelastic testing of monopole mounting on high-rise building under atmospheric boundary layer wind." *The Journal of Wind Engineering and Industrial Aerodynamics*, 2025.
- Azzi, Ziad, Houssam Al Sayegh, Omar Metwally, and Mohamed Eissa. "Review of Nondestructive Testing (NDT) Techniques for Timber Structures." *Infrastructures*, 2025.
- Eissa, Mohamed, Sherif Mohamed Ibrahim, and Mohamed Mostafa Korashy. "Lateral torsional buckling of partial corrugated web steel beams." *International Journal of Scientific & Engineering Research*, 2019.
- Eissa, Mohamed, and Amal Elawady. "Comprehensive and generalized scaling framework for downburst-like outflows: Challenges, full-scale validation, and prospects". To be submitted to *The Journal of Wind Engineering and Industrial Aerodynamics*, 2026 (in preparation).

CONFERENCE PROCEEDINGS

- Eissa, Mohamed., Ibrahim, Sherif Mohamed., Korashy, Mohamed Mostafa. "Lateral torsional buckling strength of partial corrugated web steel beams: Elastic Analysis." *15th International Conference on Structural and Geotechnical Engineering*, 2018.
- Eissa, Mohamed., Elawady, Amal., Zisis, Ioannis. "Evaluation of extreme value estimation methods based on statistical inference of wind pressure coefficient behavior for low-rise buildings under stationary winds." *The 16th ICWE International Conference on Wind Engineering, Florence, Italy, 2023*.
- Eissa, Mohamed, Omar Metwally, Federico Canepa, Mekdes T. Mengistu, Amal Elawady, Massimiliano Burlando, and Maria Pia Repetto. "Uniting the Realms of Physical Simulations and Field Measurements of Downburst Events Through an International Collaboration." International Conference of the Italian Association for Wind Engineering. Pisa, Italy, September 8-11, 2024.
- Eissa, Mohamed, Amal Elawady. "Transmission line system dynamic response under synoptic and non-synoptic winds." The 2nd International Summit on Civil, Structural, and Environmental Engineering. Florence, Italy, March 18-20, 2024.

- Eissa, Mohamed, Amal Elawady. "Comprehensive Framework for Scaling and Analyzing Downburst-like Outflows in Wind Tunnels— methodology and case study." The 9th International Colloquium on Bluff Body Aerodynamics and Applications. Birmingham, UK, July 29- Aug 2, 2024.
- Eissa, Mohamed., Ibrahim, H.A., Elawady, Amal. "Dynamic Response Analysis of Roof-mounted Monopole under ABL Winds." The 7th American Association of Wind Engineering workshop. Michigan, USA, June 9-11, 2024.
- Eissa, Mohamed, Amal Elawady. "Dynamic Behavior of Transmission Line Systems Prone to Non-uniform Downburst Wind Loading." The Engineering Mechanics Institute Conference (EMI). Illinois, USA, May 28-31, 2024.
- Eissa, Mohamed, Amal Elawady. "Aeroelastic testing of partially damaged transmission tower prone to downburst-like outflows." The American conference of wind engineering (ACWE). Missouri, USA, May 19-22, 2025.
- Eissa, Mohamed., Ibrahim, H.A., Elawady, Amal. "Wind-induced Dynamic Response of Roof-Mounted Monopoles." The American conference of wind engineering (ACWE). Missouri, USA, May 19-22, 2025.
- Eissa, Mohamed, Metwally, Omar., Mengistu, Mekdes T., Elawady, Amal., Calotescu, Illeana., Repetto, Maria Pia. "Structural Response of Telecommunication Lattice Tower Under Synoptic Winds." The American conference of wind engineering (ACWE). Missouri, USA, May 19-22, 2025.
- Eissa, Mohamed, Metwally, Omar., Al Sayegh, Houssam., Adamu, Yonathan., Chen, Guangzhao., Elawady, Amal., Zisis, Ioannis., Chowdhury, A. G. "Wind-Only Physical Design Testbed (WOPDT) for the Design of the NICHE— World's Largest Wind-Wave Research Facility." The American conference of wind engineering (ACWE). Missouri, USA, May 19-22, 2025.
- Eissa, Mohamed, Amal Elawady. "Comprehensive Framework for Scaling Downburst-like Outflows in Wind Tunnels." The Engineering Mechanics Institute Conference (EMI). California, USA, May 27-30, 2025.
- Eissa, Mohamed, Amal Elawady. "Comprehensive Framework for Scaling and Analyzing Downburst-like Outflows in Wind Tunnels." The 9th European African Conference on Wind Engineering (EACWE). Trondheim, Norway, June 16-19, 2025.
- Omar Metwally, Eissa, Mohamed, Federico Canepa, Mekdes T. Mengistu, Amal Elawady, Massimiliano Burlando, and Maria Pia Repetto. "A Continuous Wavelet Transform-Based Technique for Extracting Thunderstorm Events from Wind Speed Records," The American Conference of Wind Engineering (ACWE 2025). Missouri, USA, 2025.

CERTIFICATION and LICENSES

Engineer in Training (EIT), Passed the NCEES-administered Civil Engineering Fundamental (FE) exam, 07/2023.
Certificate in University Teaching & Learning, Florida International University, in progress.

Awards

- **National Science Foundation (NSF) Travel Award** to the NHERI Summer Institute for Early-Career Faculty at the University of Texas at San Antonio, June 11-13, 2025.
- **The SEI Futures Fund Student Scholarship** to participate in the 2026 Structures Congress in Boston.

Sample of Peer Review

- Wind-driven rain assessment for multiple facade orientations using bias-corrected hourly reanalysis precipitation data across various climates in Indonesia, submitted to the Journal of Building Engineering (2026).
- Aerodynamic Forces and Vortex-Induced Vibration Characteristics of Bark-Inspired Surface Textures on Stay Cables, submitted to the Physics of Fluids Journal (2026).
- Effect of Ventilated façade on Thermal Comfort in University Laboratories, submitted to Ain Shams Engineering Journal (2026). The decision was a rejection.
- Comparative Assessment of International Standards for Curtain Wall Structural Design, submitted to the ASCE Journal of Architectural Engineering (2025).
- A novel vertical axis wind turbine flow control: The Strategies of Adaptive Flaps and a Trailing-edge Splitter Plate, submitted to the Frontiers journal (2025).

Acquired Skills

Data analysis, Field and Experimental simulations, Programming using MATLAB, Python, SQL, and R, and ArcGIS.