Abdelrahman Omar Yusuf Ali

abdelrahmanomaryusuf@aast.edu | 00201093974110 |

Enthusiastic researcher and educator with a deep interest in structural dynamics and vibration mitigation methods. My experience as a Teaching Assistant fostered a positive learning environment for undergraduates in Design of Metallic and Reinforced Concrete Structures and Strength of Materials and Structural Analysis. Skilled in numerical simulation of structures, I excel at translating complex engineering concepts into clear, engaging lessons. I'm eager to contribute to cutting-edge research on multi-hazard structural systems, further developing my expertise within structural dynamics.

EDUCATION 2018-2023	M.Sc. Structural Dynamics & Vibration control, AASTMT
Thesis title: Supervisor: Submission: GPA:	'Vibration mitigation of wind turbines using tuned liquid damper' Dr. Mohamed Abdelshakour, Prof. Eehab Khalil Defence date – December 2023 3.83
2012-2017	B.Sc. Construction and Building Engineering, (2 nd on class), AASTMT
Grad. Project: GPA:	'Design of special steel and reinforced concrete structures' 3.79

ACADEMIC EXPERIENCE

9/2018 – Present **Teaching assistant**, AASTMT

Assisted in planning and delivering lessons, provided tutoring to support student learning, reviewed and assessed work, and maintained a productive classroom environment. Collaborated with instructors to optimize learning plans based on student performance.

Teaching courses

- Structural Analysis I (Determinate structures)
- Strength of Materials
- Introduction to construction management
- Building Information Modelling
- Structural Analysis II (Indeterminate structures)
- Reinforced concrete & Metallic Structures
- Design of Reinforced concrete Structures I
- Design of Metallic Structures
- Design of Reinforced concrete Structures II
- Special Topics in Steel & Composite Structures
- Programming Fundamentals & Problem Solving
- Precalculus
- Design of Coastal Structures
- Construction surveying.

Administrative work

- Academic advising (2017 to present)
- Head of Scheduling committee (2018 2019)
- Head of Quality control committee (2020 2022)
- Head of activities committee (2023 till present)
- Participated in updating the department's status report

PUBLICATIONS

- Published Yusuf, A.O., Hasan, M.A. & Khalil, E. Vibration mitigation of wind turbines with tuned liquid damper using fluid-structure coupling analysis. Int. J. Dynam. Control 12, 3517–3533 (2024). https://doi.org/10.1007/s40435-024-01446-z
- Accepted Yusuf, A.O., Hasan, M.A. & Khalil, E. Effect of Tuned Liquid Damper on Wind-Induced Vibrations of Wind Turbine Tower. 3rd International Conference on Civil Engineering: (Development & Sustainability) Assuit, Egypt.

CONFERENCES AND EVENTS

- 2024 **'DIGITAL CONSTRUCTION SUMMIT 2024' Participated with a poster**. Egypt, BUE in Cairo.
- 2023 'The 8th International Conference on Advanced Technology and Applied Sciences (ICaTAS 2023)'. Egypt, Aswan
- 2023 3rd International Conference on Civil Engineering: (Development & Sustainability). Egypt, Assuit.

OTHER PROFESSIONAL EXPERIENCE

2018 - Present Founder of Structural Fantasy competition

An online competition that assesses students' fundamentals in structural analysis, thereby improving their ability to predict structural behaviour and comprehend the effects of straining actions. The 5th season of Structural Fantasy wrapped up with 30 MENA universities and 170 students participating. AAST's ICE chapter hosted the event, with sponsorship from EGEC and Civil Academy.

Fall (2023/2024)Project Leader – First Place Team, Egg Protection Device Competition

led a team from our department to secure the national first-place title in the Egg Protection Device Competition. This competition, organized by the ACI student chapter at the Arab Academy for Science and Technology (AAST), challenged participants to design and build concrete frame to safeguard an egg from impact loads. Through teamwork and innovation, our team's creation emerged victorious.

Fall (2023/2024) Project Leader – First Place Team, Elevate and Shake Competition led a team from our department to secure the national first-place title in the Elevate & Shake Competition. This competition, organized by the civil department in BUE, challenged participants to design and build 19 story building with a height of 1.6m to resist different earthquakes. Through teamwork and innovation, our team's creation emerged victorious.

2020 - Present **Online Educational Youtube Channel** Youtube platform (@Structures Engineering) for engineering tutorials.

ACTIVITIES

2024 Al applications in structural engineering course, BUE

Completed coursework on AI applications in structural engineering, focusing on the use of neural networks for predictive modelling. Applied a neural network to predict the behaviour of structures equipped with a tuned liquid damper under different water levels. The results showed strong agreement between predicted and actual data in terms of peak amplitude and frequency, with minor discrepancies in capturing small spikes, which were insignificant to the overall analysis.

Languages	Arabic (Mother tongue), English
Programming	Python, and C language
Eng. Software	Ansys Transient, Ansys Fluent, Ansys Static, and CSI Bundle
Cad & 3D Modeling	Autodesk Autocad, Autodesk Revit, and Lumion

REFEREES

 Name :
 Eehab Ahmed Badr Eldein Khalil

 Affiliation :
 Professor of Structural Engineering (Hydraulic Structures, design & rehabilitation) Construction Research Institute – National Water Research Center

 Email :
 Dr.eehab@gmail.com

 Phone :
 002 0100 038 2104

Name : Emad E. Elbeltagi, PhD, PEng

Affiliation :Professor of Construction Management, Mansoura University, EgyptEmail :eelbelta@mans.edu.eg, eelbelta@yahoo.com

Phone : 002 01004850586

Name : Ahmed Torky

 Affiliation :
 Assistant Professor of Structural Engineering, BUE

 Email :
 ahmed.torky@bue.edu.eg

Phone : 002 01067186679