

Ahmed Samy B.Z. Hassan, M.Sc.

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Summary

Dedicated researcher seeking a PhD position in structural engineering at a reputable university. My expertise spans experimental testing of structural elements, numerical modeling with finite element (FE) programs, and analytical modeling of structural behavior. Specializing in steel structures, I have designed numerous projects in my homeland, ensuring they meet rigorous design codes and performance standards.

Education

M.Sc. in Civil Engineering (Structural Engineering)

April 2024

Faculty of Engineering, Assiut University, Egypt.

GPA: 4.00/4.00

Thesis Title: Long Term Behavior of Self-Centering Connection of Steel Beams to CFST Columns

B.Eng. in Civil Engineering (Structural Engineering)

July 2019

Faculty of Engineering, Assiut University, Egypt.

GPA: 91.88 %

Research and Professional Experience

Structural engineer

June 2020 – Present

Structural Engineering Laboratories, Assiut University

In this role, I gained extensive experience in experimental testing of various structural elements, including steel beam-column connections, steel and reinforced concrete (R.C.) beams, steel and R.C. columns, R.C. slabs, and R.C. cylinders (both scaled and full-size). I conducted both monotonic and cyclic tests and became proficient in utilizing finite element (FE) programs like Abaqus to model structural elements and analyze their behavior.

Technical office engineer

February 2021 – April 2021

S.A.N Consulting office, Assiut, Egypt

I was responsible for designing various structural elements (R.C. and steel) to meet international building code requirements. My duties also included preparing bills of quantities (B.O.Qs) and other project documentation.

Software Skills

- ABAQUS: Nonlinear response of steel frames.
Low Cycle fatigue response of beam-column connections.
Response of steel structural elements post-tensioned with FRP tendons and Steel strands.
- SAP2000: Modal analysis of steel and R.C. structures.
- AutoCAD, Microsoft Office, ETABS, safe

Professional Organizations

Egyptian Engineers Syndicate (ID: 7/7300361/2019/3)

Teaching Experience

Teaching Assistant / Lecturer Assistant

June 2020 – Present

Faculty of Engineering, Assiut University, Egypt.

With four years of experience as a Assistant lecturer at the Faculty of Engineering, Assiut University, I have taught a variety of courses, including:

- Structural analysis I, II, IV.
- Steel structures design I.
- R.C. structures design II.
- Management of engineering projects and projects scheduling.
- Hydraulics and fluid mechanics II.
- Railway design.

I focused on providing students with a comprehensive understanding of these subjects through interactive lectures, practical examples, and hands-on projects.

Publications

I have authored five journal papers, including one published, two under review, one submitted, and one under preparation, as well as one conference paper.

Journal Papers:

- 1) **Hassan, A.S.B.Z.**, Algobahi, R.M., and Fahmy, MFM. "Post-tensioned Steel Beam-Column Connections with Reduced length BFRP Tendons" *Journal of Constructional Steel Research*, <https://doi.org/10.1016/j.jcsr.2023.108423>
- 2) Algobahi, R.M., Abdo, MAB., **Hassan, A.S.B.Z.**, and Fahmy, MFM. "Application of FRP Bars to Enhance and Control the Seismic Performance of Beam-Column Steel Connections: Conceptual and Validation". [*Under review in Steel and Composite Structures Journal*](#).
- 3) Fahmy, MFM, **Hassan, A.S.B.Z.**, Raheem, SEA., Abdo, MAB., Algobahi, R.M. "Long-Term Behavior of Reduced Length FRP Tendons in Post-Tensioned Steel Beam-Column Connections". [*Under review in Steel and Composite Structures Journal*](#).
- 4) **Hassan, A.S.B.Z.**, Yang, Y., Algobahi, R.M., and Fahmy, MFM. "Comparative Experimental Study of Post-Tensioned Steel Beam-Column Connections with Different Types of Reduced Length FRP Tendons" [*submitted to Composites Part B: Engineering Journal*](#).
- 5) **Hassan, A.S.B.Z.**, Algobahi, R.M., and Fahmy, MFM. "Experimental Performance-Based Design Approach for Post-Tensioned Steel Beam-Column Connections with Reduced Length FRP Tendons". [*Under preparation*](#)

Conference Papers

- 1) **Hassan, A.S.B.Z.**, Abdo, MAB., Raheem, SEA., Fahmy, MFM. (2022) "Application of BFRP Composites in Steel Beam-Column Joints", Proceedings of the 2nd International Conference on Basalt Fibers and Composites, Nanjing, China, November.

Referees

- **Mohamed F.M. Fahmy**, (M.Sc. Supervisor)
Professor of Reinforced Concrete (R.C.) and Composite Structures
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Assiut 71516, Egypt.
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- **Shehata E.A. Raheem**, (M.Sc. Supervisor)
Professor of Dynamics of Structures and Earthquake Engineering
Faculty of Engineering, Assiut University
Assiut 71516, Egypt
Email: shahataraheem@eng.au.edu.eg
- **Mohamed K. Nafadi**, (Mentor)
Associate Professor of Structural Engineering
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