

Mohamed Hamdy Emam El-Feky
Ph. D., Civil and Environmental Engineering
(Structural Engineering)

Belbes, Zagazig, Sharkia. 44519, Egypt

Email: mhfeky@zu.edu.eg; Cell: (+2) 01001787085

Orcid Link: <https://orcid.org/my-orcid?orcid=0000-0002-4820-1093>

Google Scholar: <https://scholar.google.com/citations?user=jvPHsqEAAAAJ&hl=ar>

Scopus link: <https://www.scopus.com/authid/detail.uri?authorId=57386070400>



OBJECTIVE

Seeking a development challenging career in the fields of structural and civil engineering industry and research, numerical modeling, structural systems design, strengthening and advanced materials.

EDUCATION

- Doctor of Philosophy in Structural Engineering, Zagazig University, Sharkia, Egypt, October 2017 – June 2022.
Thesis: Structural behavior of frames strengthened using pre-stressing methods.
- Masters of Science in Structural Engineering, Zagazig University, Sharkia, Egypt, March 2013 – March 2016.
Thesis: Enhancing seismic performance of bridge joints using energy dissipation devices.
- Bachelors of Science in Civil Engineering, Zagazig University, Egypt, September 2006 – May 2011.
Graduated with Honor and was Top Student among 760 students.

SKILLS

- Finite Element Modeling: Commercial codes of ANSYS (WORKBENCH) (5 years), with focus on analysis of different structures subjected to different loads.
- Structural Analysis and Design Software: SAP2000 (12 years), ETABS (10 years), SAFE (10 years), CSI-COLUMN (10 years).
- Drafting and Drawing Software: AUTOCAD (15 yrs).
- Design of Structures and Bridges: developed design excel sheets using several codes.
- Scientific Programming and Data Acquisition: MATLAB (10 years), with focus on modeling and analysis of different structures subjected to static and dynamic loads.
- Languages: Excellent in English, Fluent in Arabic, Basics reading in French.

EXPERIENCE

- Assistant Professor, Structural Engineering Department, Zagazig University, Egypt, (July 2022- Current).
Research Projects:
 - Strengthening shear strength of precast hollow core slabs with different techniques:

was involved in several undergraduate courses of the civil engineering curriculum at the Zagazig University (Egypt). During my Master studies, at Zagazig University, I was charged with teaching a complete courses dealing with the structural analysis and structural mechanics. Throughout my doctoral studies at ZU, I committed to assist Prof. Dr. Gouda Attia in developing online courses, in addition to sessions taught in **Advanced structural analysis and Finite element method (2020-2022)**. I continue to work on improving its delivery and student assessment tools. I act as a co-instructor for the two courses for more than 14 semesters (2013-2019); far beyond what a typical TA does. Finally, through my work with Prof. Dr. Gouda Attia and Prof. Dr. Atef Eraky to develop the online courses, I can realize obviously the advantages and disadvantages of the online courses.

- **Courses**

- Taught at Zagazig University, Egypt:

Course	Semester	Level
Structural Analysis 1, 2	Fall 2011, 13, 14, 15, 16, 17, 18, 19, 20, and 2021	Undergraduate
Structural Mechanics 1, 2	Spring 2013, 14, 15, 16, 17, 18, 19, 20, 21, and 2022	Undergraduate
Advanced Structural Analysis	Fall 2011, 13, 14, 15, 16, 17, 18, 19, 20, and 2021	Undergraduate
Structural Dynamic	Fall 2013, 14, 15, 16, 17, 18, 19, 20, 21, and 2022	Undergraduate
Finite Element Method	Spring 2016, 17, 18, 19, 20, 21, and 2022	Undergraduate

- Qualified to Teach:

- AutoCAD, SAP2000, ETABS, SAFE and CSI-Column.
 - Structural Analysis
 - Engineering Mechanics (Statics, and Solid Mechanics)
 - Advanced Structural Analysis
 - Introduction to Structural Dynamics
 - Finite Element Method
 - Behavior of Reinforced Concrete Members
 - Theory of Elastic Stability
 - Materials and Measurements

HONORS

- Undergraduate Engineering Honor Student, Zagazig University, 2006 - 2011.
- Egyptian Engineering Syndicate Award, 2011 and 2016.

SERVICE

As a researcher, I have tried to focus my efforts on activities that directly impact my primary objectives of establishing me as an effective and excellent teacher, competent researcher, and scholar.

At Zagazig University (Egypt)

- Faculty Advisor of graduation projects.
- Academic Advising of students.

RESEARCH

I was involved in research efforts in the area of structural applications and hazard mitigation for concrete, steel and composite structures. I developed a new experimental technique for strengthening of RC members (beams and frames) using external pre-stressing methods in the lab; a technique that is expected to have significant contributions to strengthening area. I have an experience in modeling and simulating many effects on the different structures.

o Research Interests

Non-linear behavior and modeling of concrete and steel elements, modeling of structures under vertical and horizontal loadings, Experimental testing of different structural members under multi-hazard loading, Static and dynamic behavior of bridges.

o Publications

Published Work

- Mohamed, G.A.; Eisa, A.S.; Purcz, P.; El-Feky, M.H. Theoretical Study on the Flexural Behavior of Structural Elements Strengthened with External Pre-Stressing Methods. *Applied Sciences*, 2022, 12, 171. <https://doi.org/10.3390/app12010171>
- Mohamed, G.A.; Eisa, A.S.; Purcz, P.; Ručinský, R.; El-Feky, M.H. Effect of External Tendon Profile on Improving Structural Performance of RC Beams. *Buildings*, 2022, 12, 789. <https://doi.org/10.3390/buildings12060789>
- El-Feky, M.H.; Eraky, A.; Sharabash, A.M. Efficiency of Shape Memory Alloy Seismic Restrainers for Several Conditions of Bridge Joints. *Frattura ed Integrità Strutturale*, 2023, 17 (64), 104-120. <https://doi.org/10.3221/IGF-ESIS.64.07>
- El-Feky, M.H.; Eraky, A.; El-Sisi, A. A.; Purcz, P.; Demjan, I.; Katunský, D.; Sharabash, A. M. Optimal Hysteresis of Shape Memory Alloys for Eliminating Seismic Pounding and Unseating of Movement Joint Systems. *Case Studies in Construction Materials*, 2023, 19, e02219. <https://doi.org/10.1016/j.cscm.2023.e02219>

Papers Under Review

- El-Feky, M.H.; El-Sisi, A. A.; Mohamed, G.A.; Eisa, A.S. Lateral and Vertical Resistances of RC Frames Strengthening by External Post-Tensioning Tendons. *Structures*, 2023, under review,
- Ghoniem, A. G.; Aboul-Nour, L.; El-Feky, M.H. Axial Compressive and Cyclic Lateral Behavior of a Structural Masonry Prism Constructed from Crushed COVID-19 Face Masks Concrete Bricks. *Alexandria Engineering Journal*, 2023, under review.

Papers in Progress

- El-Feky, M.H.; El-Sisi, A. A. Parametric Study on Frames Strengthened with Several Profiles of External Tendons.
- El-Feky, M.H.; El-Sisi, A. A. Application of shape memory alloy on Retrofitting BANHA BRIDGE in Egypt.
- El-Sisi, A. A.; Alshalalb, I.; Nawar, M.; Salim, H.; El-Feky, M.H. Effect of Excessive Clamping Force on Bolted CFRP Composite Plates.