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RESUME

1. NATIONALITY

CANADIAN / EGYPTIAN

2. EDUCATION

2006-2010 **Ph.D. Degree**

Thesis Title:
Seismic *Performance Evaluation of RC Frames Equipped with* ***Shape Memory Alloys*** *and Buckling Restrained Bracing.*

University:
Western University (Canada) and Alexandria University (Egypt)

Graduate courses:
Analysis of Tall Buildings, Probability and Statistics, Plastic Analysis of Structures.

Major contributions:

- The thesis is the first to study the application of shape memory alloy bracing system in ***reinforced concrete structures*** and to report that this bracing system can significantly reduce ***seismic*** residual deformations in low-rise buildings. This advantage is lost for medium rise buildings.
- It was also found that the use of ***superelastic shape memory alloy bars*** is effective in low- and medium-rise buildings in reducing the ***seismic*** residual deformations.

2003-2006 **M.Sc. Degree**

Thesis Title:
Seismic *Performance Evaluation of braced Steel Frames Designed According to The Egyptian Code*

University:
Alexandria University

Graduate courses:

- ***Dynamics of Structures***
- Computer Analysis of Structures
- Finite Element Method
- ***Seismic Analysis of Structures***
- Nonlinear Analysis of Structures, Stability of Structures.

Major contributions:

- The main objective of the thesis is to evaluate the validity of the Egyptian Code for designing braced steel frames subjected to ***earthquake*** excitation. It was found that the Egyptian Code needs some modifications in order to be liable for designing braced steel frames.
- It was also found that the eccentrically braced frames combine the strength and stiffness of braced frames with the inelastic behavior and energy dissipation of moment resisting frames. The shear link acts as a ductile fuse that dissipates large amount of energy while preventing buckling of brace.

1998-2003 **B.Sc. Degree**

University:
Alexandria University

Graduation Project:
"Structural analysis and design"
The project contained two main items:
1- multi-purpose sport hall composed of ***reinforced concrete*** system covered with steel trusses.
2- A museum building including stands, library, and exhibition hall.

3. PROFESSIONAL EXPERIENCE

2023-Present **Full Professor in the Faculty of Engineering, Alexandria University.**

2021-Present **Head of the Construction and Building Engineering Department, College of Engineering & Technology, Arab Academy for Science, Technology, and Maritime Transport (AASTMT), Port Said Branch**

Educational Development:

- Participated in the preparation of files for the ***QS STARS*** accreditation of the Arab Academy for Science and Technology and the Academy got ***5 STARS***.
- Participated in the preparation of files for the ***TIMES HIGHER EDUCATION*** accreditation of the Arab Academy for Science and Technology. (Please check the link below for a sample of my work in SDG No.2)
  (https://www.youtube.com/watch?v=vTI_bMEMnJA)
- Participated in the ***marketing*** of the College of Engineering & Technology, Arab Academy for Science, Technology, and Maritime Transport (AASTMT). (Please check the link for one of my marketing presentations)
  (https://youtu.be/csiIiNO_v5E)

2019-Present **Adjunct Associate Professor at the Construction and Building Engineering Department, College of Engineering & Technology, Arab Academy for Science, Technology, and Maritime Transport (AASTMT).**

Undergraduate teaching:

- ***Structural Analysis 1***. Construction and Building Engineering Department, College of Engineering and Technology, Arab Academy for Science and Technology.
- ***Structural Analysis 2***. Construction and Building Engineering Department, College of Engineering and Technology, Arab Academy for Science and Technology.
- ***Design of Reinforced Concrete Structures 1***. Construction and Building Engineering Department, College of Engineering and Technology, Arab Academy for Science and Technology.
- ***Reinforced Concrete and Metallic Structures.*** Architectural Engineering Department, College of Engineering and Technology, Arab Academy for Science and Technology.

2016-2023 **Associate Professor in the Faculty of Engineering, Alexandria University**

Undergraduate teaching:

- ***Theory of Structures*** I. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures II. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures III. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures IV. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Engineering Materials. Architecture & Construction Engineering**.** Program, Faculty of Engineering, Alexandria University.
- ***Structural Analysis*** 1. Civil Engineering Department, Borg Al-Arab Higher Institute of Engineering & Technology, Alexandria.
- Structural Analysis 2. Civil Engineering Department, Borg Al-Arab Higher Institute of Engineering & Technology, Alexandria.
- ***Solid Mechanics***. Civil Engineering Department, Borg Al-Arab Higher Institute of Engineering & Technology, Alexandria.
- ***Dynamics of Structures***. Civil Engineering Department, Borg Al-Arab Higher Institute of Engineering & Technology, Alexandria.
- Civil Engineering. Communications Engineering Department, Alexandria Institute of Technology.
- Civil Engineering. Computer Engineering Department, Alexandria Institute of Technology.

- Civil Engineering. Mechatronics Engineering Department, Alexandria Institute of Technology.

Graduate teaching:

- ***Seismic Analysis*** of Structures.
- ***Dynamics*** of Structures.
- Plastic Analysis of Structures.

Educational Development:

- Participated in the preparation and development of ***scientific contents and regulations for the courses in the bachelor's degree in civil engineering departments*** of all structural engineering materials in the faculty of engineering, Alexandria University.

- Participated in the preparation of files for the ***accreditation of the faculty of Engineering, Alexandria University.***

Attendance of Scientific Conferences:

- Attended the Tenth Alexandria International Conference on Structural and Geotechnical Engineering (AICSGE10).

2018-2019 **Head of the Structural Integrity Evaluation Committee, Eastern District, Alexandria, Egypt.**

Structural Technical Reports:

- Technical report on the structural condition and repairing of building no. 31 in front of 42 elmadina elmonawara street, elmahrousa elgedida from Gawad hosny, Abo sliman, raml.
- Technical report on the structural condition and repairing of building no. 1 at ghobrial station at dana street.
- Technical report on the structural condition and repairing of building no.307 elhorreya road, cleopatra, sidi gaber.
- Technical report on the structural condition and repairing of building no. 49 Abdelsalam aref street, saba pasha.
- Technical report on the structural condition and repairing of building no. 10 mostafa lofty elmanfeloty street, stanley.
- Technical report on the structural condition and repairing of building no. 302 street 302, Smouha, awayed.
- Technical report on the structural condition and repairing of building no. 13 omar elkhayam street, cleopatra.
- Technical report on the structural condition and repairing of building no. 234 elhorreya road, sporting, sidi gaber.
- Technical report on the structural condition and repairing of building no. 1 moawya street with selim eskandar street.

- Technical report on the structural condition and repairing of building no. 4 zolfakkar street, shods, raml.
- Technical report on the structural condition and repairing of building no. 72 ebn moanes street, ghobrial.
- Technical report on the structural condition and repairing of building no.37 elekbal street, louran.
- Technical report on the structural condition and repairing of building no.82 arabic company street, elsoyouf.
- Technical report on the structural condition and repairing of building no.84 arabic company street, elsoyouf.
- Technical report on the structural condition and repairing of building no.59 abdelsalam aref street, saba pasha.
- Technical report on the structural condition and repairing of building no.6 mohamed saleh abo yousef street, saba pacha.
- Technical report on the structural condition and repairing of building no.3 elrahma street.
- Technical report on the structural condition and repairing of building no.19 medhat seif elyazal street, cleopatra hamamat.
- Technical report on the structural condition and repairing of building no.270 elgesh road with 19 gaber abdel moaty elghazaly street, stanley.
- Technical report on the structural condition and repairing of building no.21 ein elhayah street with helmy bahgat street, sporting.
- Technical report on the structural condition and repairing of building no. 48 sidi gaber street, cleopatra.
- Technical report on the structural condition and repairing of the commercial market at esmail helmy street, Smouha, sidi gaber.
- Technical report on the structural condition and repairing of building no. 391 elhorreya road sidi gaber.
- Technical report on the structural condition and repairing of building no. 161 elgesh road, cleopatra.
- Technical report on the structural condition and repairing of shaarawy mosque at 3 shaarawy street.
- Technical report on the structural condition and repairing of marymina church at 538 elhorreya road, gleem.
- Technical report on the structural condition and repairing of building no.142 sabongy street, gleem.
- Technical report on the structural condition and repairing of building at tahrir street with mohamed issa street.
- Technical report on the structural condition and repairing of building no. at hifa street with mohamed issa street.
- Technical report on the structural condition and repairing of building no.4 eldoha street from amin yehya street, zizenia.
- Technical report on the structural condition and repairing of building no.19 abdelaziz agameya street, sidi gaber.
- Technical report on the structural condition and repairing of elkhayala police office at transportation and engineering street,

Smouha, sidi gaber.

- Technical report on the structural condition and repairing of building no.6 church street, ezbet elnozha airport.
- Technical report on the structural condition and repairing of building no.37 s elrahma street, izbet abdelmenem riad, sidi gaber.
- Technical report on the structural condition and repairing of building at no.1 street with ahmed abo sliman street, abo sliman.
- Technical report on the structural condition and repairing of second building at hifa street with mohamed issa street.
- Technical report on the structural condition and repairing of third building at hifa street with mohamed issa street.
- Technical report on the structural condition and repairing of building no.2 moanes street with elmotaqy street.
- Technical report on the structural condition and repairing of building no.4 moanes street beside marygirgis church.
- Technical report on the structural condition and repairing of building no.33 ebn nofal street, sidi gaber.
- Technical report on the structural condition and repairing of building no.169 elgesh road, sidi gaber.
- Technical report on the structural condition and repairing of building no.3 s tebouk street, sidi gaber.
- Technical report on the structural condition and repairing of building no.63 mostafa abo hef street, saba pasha.
- Technical report on the structural condition and repairing of building no.2 adly yakan street branched from el gesh road, elraml.
- Technical report on the structural condition and repairing of building no.7 izbet abdelmenem riad, sidi gaber.
- Technical report on the structural condition and repairing of building no.43 izbet mansy, sidi gaber, elnozha airport.
- Technical report on the structural condition and repairing of building no.5 mostafa elmaghraby street, cleopatra.
- Technical report on the structural condition and repairing of building no.31 presidents' crown street branched from elgesh road, gleem.
- Technical report on the structural condition and repairing of building no.18 portsaid street.
- Technical report on the structural condition and repairing of building no.38 dr.rashad shafik street with yaser ibn amer street, elsoyouf.
- Technical report on the structural condition and repairing of building no.11 arabic company street branched from ahmed abo sliman street, elsoyouf.
- Technical report on the structural condition and repairing of building no.424 elhorreya road.

2015-2017 **Visiting Professor, Western University, London, ON, Canada.**

- Studied the ***seismic performance*** of framed structures reinforced with ***FRP and SMA rebars***
- Conducted a parametric study for using ***stainless steel rebars*** instead of regular steel rebars for multistory frames.
- Studied the seismic performance of reinforced concrete frames retrofitted using external ***superelastic shape memory alloy bars***.
- Studied the plastic hinge relocation in reinforced concrete beams using ***Cu-Al-Mn shape memory alloy bars.***

2013-2014 **Visiting Professor, Western University, London, ON, Canada.**

- Studied the lateral stiffness and seismic capacity of residential reinforced concrete interior ***flat plate connections***.
- Investigated the shear and peel strengths of the interface between ***hollowcore slabs*** and cast-in-situ concrete topping using finite element.
- Improved analytical model for interfacial stresses between hollow-Core slabs and ***cast-in-situ concrete topping***.

2010-2016 **Assistant Professor in the Faculty of Engineering, Alexandria University**

Undergraduate teaching:

- ***Theory of Structures*** I. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures II. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures III. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- Theory of Structures IV. Civil Engineering Department, Faculty of Engineering, Alexandria University.
- ***Structural Engineering***. Textile Engineering department, Faculty of Engineering, Alexandria University.
- ***Structural Analysis*** (1). Architectural and Construction Program, Faculty of Engineering, Alexandria University.
- Theory of Structures. Electrical Engineering Department, Faculty of Engineering, Alexandria University.

- Theory of Structures. Agricultural Engineering Department, Faculty of Agriculture, Alexandria University.
- Civil Engineering. Communications Engineering Department, Alexandria Institute of Technology.
- Civil Engineering. Computer Engineering Department, Alexandria Institute of Technology.
- Civil Engineering. Mechatronics Engineering Department, Alexandria Institute of Technology.
- Civil Engineering. Communication and Electronics Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.
- ***Analysis of Structures*** (1). Civil Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.
- Analysis of Structures (2). Civil Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.
- Analysis of Structures (3). Civil Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.
- Analysis of Structures (4). Civil Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.
- Theories of Structures. Architectural Engineering Department, Higher Institute of Engineering & Technology, K-Marriot.

Graduate teaching:

- Plastic Analysis of Structures.
- ***Seismic Analysis*** of Structures.
- ***Dynamics*** of Structures.

Educational Development:

- Participated in the preparation and ***development of scientific contents and regulations for the courses in the bachelor's degree in civil engineering departments*** of all structural engineering materials in the faculty of Engineering, Alexandria University.

- Participated in the preparation of files for the ***accreditation of the faculty of engineering, Alexandria University.***

Organization and Attendance of Scientific Conferences:

- Organization committee member of Seventh Alexandria International Conference on ***Structural and Geotechnical Engineering*** (AICSGE7)

- Attended the Eighth Alexandria International Conference on Structural and Geotechnical Engineering (AICSGE8).

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Address: 103-22 Mohamed Ezz Elarab St., Louran, Alexandria, Egypt

2008-2010 **Academic Researcher, Western University, London, ON, Canada**

- Conducted static and ***dynamic analyses*** of reinforced concrete structures.
- Evaluated the performance of structures equipped with ***shape memory alloys reinforcing bars.***
- Studied the ***seismic performance*** of structures equipped with Shape memory alloy bracing and buckling restrained bracing.

2006-2008 **Assistant Lecturer, Alexandria University.**

Teaching duties:

- ***Theory of Structures*** I, Theory of Structures II, Theory of Structures III, Theory of Structures IV, Civil Department, Faculty of Engineering.

2003-2006 **Demonstrator, Alexandria University**

Teaching duties:

- ***Theory of Structures*** I, Theory of Structures II, Theory of Structures III, Theory of Structures III, Theory of Structures IV, Civil Department, Faculty of Engineering.
- Theory of Structures, Mechanical Department, Faculty of Engineering.
- ***Structural Analysis***, Faculty of Arts.
- ***Quality Control and Repair***, Civil Department, Faculty of Engineering.

2003-2008 **Structural Engineer, The United Group of Consulting Engineering (UGCE)**

- Planning and designing of steel and reinforced concrete buildings and using computer-aided packages in the design process.
- Developing the integrity between the structural analysis and the design with Autocad drawings.
- Reviewing and approving project drawings.
- Analyzing the proposed site location as well as the entire construction job which is to be completed at such a site.
- Planning the construction project in conjunction with the analysis results.

- Inspecting the product during the project process to ensure that all rules, regulations and guidelines have been explicitly followed.
- Recommending site-appropriate materials.
- Supervising workers and other civil engineers to make sure that the construction meets guidelines and specifications.
- Conducting meetings with the work team to conclude the project process and further requirements.
- Assesing technical proposals of contracts and evaluating progress reports of the projects.

4. SPECIAL TRAINING COURSES

2022

- University Laws and Regulations
- Developing Executive Leadership Skills
- Leadership and Strategic Thinking
- Research Ethics and Plagiarism
- Preparing Competitive Research Projects
- Electronic Exams

(Awarded from the Faculty and Leadership Development Center, Alexandria University)

2021

- Examination and Student Assessments Systems Applied on E-Learning

(Awarded from Arab Academy for Science and Technology)

2020

- Moodle

(Awarded from Arab Academy for Science and Technology)

- Designing for Online Learning
- Re-Thinking Student Assessment in Online Learning

(Awarded from CLICKS, Center for Learning Innovations & Customized Knowledge Solutions)

2016

- Global Databases Usage.
- Scientific References Management System.
- Decision Making and Problem Solving.
- E-Learning
- Crises and Disasters Management.

(Awarded from the Faculty and Leadership Development Center, Alexandria University).

2015

- Comprehensive WHMIS Training.
- Basic WHMIS Training.

(Awarded from Western University, Canada).

2012

- Comprehensive WHMIS Training.
- Basic WHMIS Training.
- Safe Campus Community (Preventing Harassment, Violence, and Domestic Violence).
- Work Safely at Western-Occupational Health and Safety Orientation (Western's Online Learning Program).
- Accessibility at Western (AODA)-Accessibility in Teaching (Western's Online Learning Program).
- Accessibility at Western (AODA)-Accessibility in Service (Western's Online Learning Program).

(Awarded from Western University, Canada).

2010

- Research Methods.
- Conference Organization.
- Quality Standards in the Evaluation Process.
- Exams and students Evaluation systems.
- International Publishing of Scientific Research.

(Awarded from the Faculty and Leadership Development Center, Alexandria University).

2006

- Teaching with Technology (T3).

(Awarded from the Faculty and Leadership Development Center, Alexandria University.

2005

- Effective Teaching (T1).
- Effective Presentation Skills (I1).

(Awarded from the Faculty and Leadership Development Center, Alexandria University).

5. AWARDS

2016 Invitation from Western University to Visit the Department of Civil & Environmental Engineering, Faculty of Engineering as a Visiting Researcher.

2015 Invitation from Western University to Visit the Department of Civil & Environmental Engineering, Faculty of Engineering as a Visiting Researcher.

2013 Invitation from Western University to Visit the Department of Civil & Environmental Engineering, Faculty of Engineering as a Visiting Researcher.

2012 Invitation from Western University to Visit the Department of Civil & Environmental Engineering, Faculty of Engineering as a Visiting Researcher.

2008-2010 Grant of the Egyptian Cultural and Educational Bureau to study in

Canada.

2010 Certificate of recognition for acting on the organizing committee of the 7th AICSGE conference, Alexandria, Egypt, Dec. 27-29, 2010.

2002 Award of the Ideal Student in the Faculty of Engineering, Alexandria University.

2003 Grant of the Ministry of Youth to travel to Morocco.

1999, 2006 Faculty of Engineering Cup of Football.

6. LIST OF PUBLICATIONS

1. **M. Meshaly**, M.A. Youssef, and A. Elansary (2022). "Seismic Performance of Ductile Corrosion-Free Reinforced Concrete Frames." *AIMS Materials Science 9(5): 733–751*

2. **M. Meshaly**, and H. Abou-Elfath (2022)**. "**Seismic Response of RC Frames Equipped with Buckling-Restrained Braces having Different Yielding-Core Lengths." *AIMS Materials Science 9(3), 359-381.*

3. M.A. Youssef, Y. Elbahy, and **M. Meshaly** (2021). "Retrofitting of Reinforced Concrete Joints using External Superelastic Shape Memory Alloy Bars." *AIMS Materials Science 8(5), 716-738.*

4. M.A. Youssef, **M. Meshaly**, and A. Elansary (2019). "Ductile corrosion-free self-centering concrete elements." *Engineering Structures*, 184, 52-60.

5. Y. Elbahy, M.A. Youssef, and **M. Meshaly** (2019). "Seismic Performance of Reinforced Concrete Frames Retrofitted Using External Superelastic Shape Memory Alloy Bars." *Bulletin of Earthquake Engineering, 17, 781-802.*

6. S. Pareek, Y. Suzuki, Y. Araki, M.A. Youssef, and **M. Meshaly** (2018). "Plastic Hinge Relocation in Reinforced Concrete Beams using Cu-Al-Mn SMA Bars." *Engineering Structures, 175, 765-775*.

7. M.A. Youssef, **M. Meshaly**, and A. Elansary (2017). "Ductile Corrosion-Free GFRP-Stainless Steel Reinforced Concrete Elements." *Composite Structures, 182, 124-131.*

8. H. Abou-Elfath, M. Ramadan, **M. Meshaly**, and H. Fdiel (2017). "Seismic Performance of Steel Frames Designed using Different Allowable Story Drift Limits", *Alexandria Engineering Journal, 56, 241-249.*

9. A. Adawi, M. Youssef, and **M. Meshaly** (2016), "Evaluating Interfacial Shear Stresses in Composite Hollowcore Slabs using Analytical Solution", *Alexandria Engineering Journal, 55, 2647-2654.*

10. A. Adawi, M. Youssef, and **M. Meshaly** (2016), "Finite Element Modelling of the Composite Action Between Hollowcore Slabs and the Topping Concrete", *Engineering Structures, 124, 302-315.*

11. A. Adawi, M. Youssef, and **M. Meshaly** (2016), "Finite Element Modelling of Composite Hollowcore Slabs", *Proceedings, Annual Conference - Canadian Society for Civil Engineering, London, Canada.*

12. A. Adawi, M. Youssef, and **M. Meshaly** (2015), "Experimental Investigation of the Composite Action Between Hollowcore Slabs with Machine Cast Finish and Concrete Topping", *Engineering Structures, 91, 1-15.*

13. M. Youssef, A. Chowdhury, and **M. Meshaly**, (2015), "Seismic Capacity of Reinforced Concrete Interior Flat Plate Connections", *Bulletin of Earthquake Engineering, 13, 827-840.*

14. A. Adawi, M. Youssef, and **M. Meshaly** (2015), "Analytical Modeling of the Interface Between Lightly Roughened Hollowcore Slabs and Cast-In-Situ Concrete Topping", *Journal of Structural Engineering, 141(4), 04014119.*

15. M. Youssef, **M. Meshaly**, and A. Chowdhury (2014), "Lateral Stiffness of Reinforced Concrete Interior Flat Plate Connections", *Engineering Structures, 62(1), 23-32.*

16. **M. Meshaly**, M. Youssef, and H. Abou-Elfath (2014), "Use of SMA Bars to Enhance the Seismic Performance of SMA Braced RC Frames", *Earthquake and Structures, 6(3), 267-280.*

17. M.A. Youssef, **M. Meshaly**, and H. Abou-Elfath (2010), "Use of SMA and Buckling Restrained Braces to Reduce Seismic Residual Deformations in Low-Rise RC Frames", *9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada.*

18. H. Abou-Elfath and **M. Meshaly** (2010), "Seismic Performance Evaluation of braced Steel Frames Designed According to The Egyptian Code", *Alexandria Engineering Journal, 49(3).*

19. L. El-Hifnawy, H.Abou-Elfath, M. El-Hewity, and **M. Meshaly** (2005), "Ductility Characteristics of Braced Steel Frames Designed According to The Egyptian Code", *11th. International Colloquium on Structural and Geotechnical Engineering, Einshams University, Cairo, Egypt.*