CURRICULUM VITAE

AYMAN ELZOHAIRY, PH.D., P.E.
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EDUCATION

University of Missouri, Columbia, MO, USA 08/2013 – 07/2018
Ph.D. in Structural Engineering
Department of Civil and Environmental Engineering
Dissertation title: "*Monotonic and Fatigue Assessment of Post-Tensioned Steel-Concrete Composite Beams*"
Advisor: Prof. Hani Salim

Zagazig University, Zagazig, Egypt 09/2005 – 04/2010
M.Sc. in Structural Engineering
Department of Structural Engineering
Thesis title: *"Strengthening of Continuous Composite Beams Using FRP"*
Advisors: Prof. Ashraf El-Shihy

Zagazig University, Zagazig, Egypt 09/1999 – 06/2004
B.Sc. in Civil Engineering

PROFESSIONAL EXPERIENCE

Academic:

Associate Professor, Department of Engineering & Technology, East Texas A&M University, Commerce, TX, USA. 09/2024 – Present

Assistant Professor, Department of Engineering & Technology, Texas A&M University-Commerce, Commerce, TX, USA. 09/2019 – 08/2024

Ad-Interim Assistant Professor, Department of Engineering & Technology, Texas A&M University-Commerce, Commerce, TX, USA. 01/2019 – 5/2019

Adjunct Instructor, Department of Civil and Environmental Engineering, University of Missouri, Columbia, MO, USA. 08/2018 – 12/2018

Graduate Research and Teaching Assistant, Department of Civil Engineering, University of Missouri, Columbia, MO, USA. 08/2013 – 07/2018

Lecturer, Department of Structural Engineering, Zagazig University, Zagazig, Egypt. 05/2010 – 07/2013

Graduate Research and Teaching Assistant, Department of Structural Engineering, Zagazig University, Zagazig, Egypt. 03/2006 – 04/2010

Industrial (Part-time):

ACE Arab Consulting Engineers: Structural design (Residential Buildings design section) 06/2010 – 06/2012

BCE-Behairy Consulting Engineering: Structural design (High Rise Buildings and bridges design sections) 03/2007 – 08/2008

PCE-Pyramids Consulting Engineering: Structural design (High Rise Buildings and bridges section) 08/2004 – 08/2006

PROFESSIONAL MEMBERSHIPS AND CERTIFICATIONS

I am a Professional Engineer (PE) with the Texas Board of Professional Engineers and Land Surveyors (PELS) since 3/10/2021.

Member of American Society of Civil Engineering (M.ASCE)

Member of American Concrete Institute (M.ACI)

Member of Structural Engineers Association of Texas (M.SEAoT)

HONORS

- INTERDISCIPLINARY RESEARCHERS OF THE YEAR 2022-2023: *"This award speaks well of my teaching at A&M-Commerce"*. Texas A&M University-Commerce. 2023
- PAUL W. BARRUS DISTINGUISHED FACULTY AWARD FOR TEACHING: *"This award speaks well of my teaching at A&M-Commerce"*. Texas A&M University-Commerce. 2023
- RESEARCH, SCHOLARSHIP, & CREATIVE ACTIVITY – "UNFETTERED THOUGHT" AWARD: *"This award speaks well of my research at A&M-Commerce"*. Texas A&M University-Commerce. 2022
- CHUCK ARIZE JUNIOR FACULTY AWARD HONOR: *"This award speaks well of my research, teaching, and service at A&M-Commerce"*. Texas A&M University-Commerce. 2020
- Zagazig University Honor for: *"Best M.Sc. in engineering and technology of advanced science"* 2011
- Egyptian Engineers Syndicate Honor:
  - Outstanding Engineers for Excellence in Engineering Education (M.Sc.) 2010
  - Outstanding Engineers for Excellence in Engineering Education (B.Sc.) 2004
- 5 State Awards for Outstanding Undergraduate Students, Egypt. 1999 - 2004

PUBLICATIONS

Books

1. **El-Zohairy, A.** (**2024**). Modeling and Testing of Reinforced Concrete or Composite Structures Using Advanced New Materials. MDPI ISBN: 978-3-0365-9939-7. https://doi.org/10.3390/books978-3-0365-9939-7

Journal Papers (corresponding author)*

1. Salman, B.F., Allawi, A.A., and **El-Zohairy, A.*** (2025). "Behavior of Axially Loaded Concrete Composite Columns Encased with GFRP and Steel I-Sections". Structural Concrete. https://doi.org/10.1002/suco.70249
2. Fayed, S.; **El-Zohairy, A.***; Salim, H.; Mlybari, E.A.; Bazuhair, R.W.; Ghalla, M. (2025) Shear Strength of Concrete Incorporating Recycled Optimized Concrete and Glass Waste Aggregates as Sustainable Construction Materials. Buildings 2025, 15, 1420. https://doi.org/10.3390/buildings15091420
3. Nawar, M.T.; **El-Zohairy, A.***; Eisa, A.S.; Mohammed, A.; Gomaa, S. (2025) FE Parametric Study of Composite Cold-Formed Steel Beams Under Positive and Negative Loadings. J. Compos. Sci. 2025, 9, 209. https://doi.org/10.3390/jcs9050209
4. Fayed, S.; Ghalla, M.; **El-Zohairy, A.***; Mlybari, E.A.; Bazuhair, R.W.; Emara, M. (2025) Construction Efficiency in Shear Strengthening of Pre-Cracked Reinforced Concrete Beams Using Steel Mesh Reinforced Strain Hardening Cementitious Composites. Buildings 2025, 15, 945. https://doi.org/10.3390/buildings15060945
5. Fayed, S.; **El-Zohairy, A.***; Salim, H.; Mlybari, E.A.; Bazuhair, R.W.; Ghalla, M. (2025) Bearing Strength of Concrete Pedestals Partially Loaded at Early Ages: An Experimental Work Mitigating Failure Risk. Buildings 2025, 15, 1107. https://doi.org/10.3390/buildings15071107
6. Alasmari, H.A.; Sharaky, I.A.; Elamary, A.S.; **El-Zohairy, A.*** (2025) The Effect of Industrial and Recycled Steel Fibers on the Behavior of Rubberized RC Columns Under Axial Loading. Buildings 2025, 15, 1616. https://doi.org/10.3390/buildings15101616
7. Elamary, A.S.; Sharaky, I.A.; Alharthi, F.M.; **El-Zohairy, A.***; Mostafa, M.M.A. (2025) The Influence of Various Tensile and Shear Reinforcement Configurations on the Ultimate Capacity and Failure Mechanisms of Reinforced Concrete Beams. Buildings 2025, 15, 1396. https://doi.org/10.3390/buildings15091396
8. Ahmed, M.A.M.; Mohamed, H.A.; Hassan, H.; **El-Zohairy, A.***; Emara, M. (2025) Numerical Analysis of the Cyclic Behavior of Reinforced Concrete Columns Incorporating Rubber. J. Compos. Sci. 2025, 9, 95. https://doi.org/10.3390/jcs9030095
9. **El-Zohairy, A***.; Hamdy, O. (2025) Optimization and Prediction of the Mechanical Properties of Concrete with Crumb Rubber and Stainless-Steel Fibers Under Varying Temperatures. Computation, 13, 14. https://doi.org/10.3390/computation13010014
10. Alasmari, H.A.; Sharaky, I.A.; Elamary, A.S.; **El-Zohairy, A***. (2025) Rehabilitation and Strengthening of Damaged Reinforced Concrete Beams Using Carbon Fiber-Reinforced Polymer Laminates and High-Strength Concrete Integrating Recycled Tire Steel Fiber. Fibers, 13, 10. https://doi.org/10.3390/fib13010010

11. Saad, I.M.; Mohamed, H.A.; Emara, M.; **El-Zohairy, A.***; El-Beshlawy, S. (**2024**) "Finite Element Modeling and Analysis of RC Shear Walls with Cutting-Out Openings". Modelling, 5, 1314-1338. https://doi.org/10.3390/modelling5030068
12. Nawar, M.T.; Selim, M.; Zaghlal, M.; **El-Zohairy, A.***; Emara, M. (**2024**) "Performance of GFRP-Confined Rubberized Engineered Cementitious Composite Columns". J. Compos. Sci., 8, 330. https://doi.org/10.3390/jcs8080330
13. Nawar, M.T.; **El-Zohairy, A.***; El-Sisi, A.; Salim, H.; Aldoshan, A.A. (**2024**) "Blast Wave Simulator for Laminated Glass Panels Experimental Evaluation". CivilEng, 5, 576-590. https://doi.org/10.3390/civileng5030031
14. Nawar, M.T.; **El-Zohairy, A.***; Alaaser, A.G.; Hamdy, O. (**2024**) "Finite Element Analysis and Optimization of the Rotational Stiffness of Semi-Rigid Base Connection under Simultaneous Moment and Tension". Buildings, 14, 2166. https://doi.org/10.3390/buildings14072166
15. Said, A.I.; Hussien, Y.J.; Mohammed, M.H.; Allawi, A.A.; Ibrahim, T.H.; **El-Zohairy, A.***; Abdelbaset, A.M. (**2024**) "Experimental and FE Investigations of Backfill Cover on Large-Diameter GRP Pipes". CivilEng, 5, 646-672. https://doi.org/10.3390/civileng5030035
16. Abdo, A.; **El-Zohairy, A.***; Alashker, Y.; Badran, M.A.E.-A.; Ahmed, S. (**2024**) "Effect of Treated/Untreated Recycled Aggregate Concrete: Structural Behavior of RC Beams". Sustainability, 16, 4039. https://doi.org/10.3390/su16104039
17. Edris, W.F.; Elbialy, S.; **El-Zohairy, A.***; Soliman, A.M.; Shawky, S.M.M.; Selouma, T.I.; Al Sayed, A.A.-K.A. (**2024**) "Examining Mechanical Property Differences in Concrete with Natural and Synthetic Fiber Additives". J. Compos. Sci., 8, 167. https://doi.org/10.3390/jcs8050167
18. Nawar, M.T.; Eisa, A.S.; Elshazli, M.T.; Ibrahim, Y.E.; **El-Zohairy, A.*** (**2024**) "Numerical Analysis of Rubberized Steel Fiber Reinforced Concrete Beams Subjected to Static and Blast Loadings" Infrastructures, 9, 52. https://doi.org/10.3390/infrastructures9030052
19. Al-Tameemi, S.K.A., Al-hasany, E.G., Mohammad, H.K., Jabir, H.A., Ibrahim, T.H., Allawi, A.A., **El-Zohairy, A.*** (**2024**) "Simulation and Design Model for Reinforced Concrete Slabs with Lacing Systems" Advances in Structural Engineering, 27(5). https://doi.org/10.1177/13694332241237576
20. Nawar, M.T., Matar, E., **El-Zohairy, A.***, Alaaser, A., and Maaly, H. (**2024**) "Experimental and FE Analysis of the Rotational Stiffness of Semi-Rigid Steel Column Base". Structures, 62. https://doi.org/10.1016/j.istruc.2024.106164
21. **El-Zohairy, A.***; Salim, H.; Shaaban, H.; Nawar, M.T. (**2024**) Fatigue Characteristics of Steel–Concrete Composite Beams. Infrastructures, 9, 29. https://doi.org/10.3390/infrastructures9020029
22. Ali, M.I.; Allawi, A.A.; **El-Zohairy, A**.* (**2024**) Flexural Behavior of Pultruded GFRP–Concrete Composite Beams Strengthened with GFRP Stiffeners. Fibers, 12, 7. https://doi.org/10.3390/fib12010007
23. Tahoon, D.; **El-Zohairy, A.***; Hendawy, H.I.I. (**2024**) Cost Impact Comparative Analysis via BIM between Heritage Regular Maintenance Projects and Long-Term Restoration Projects—A Case Study. Heritage, 7, 50-74. https://doi.org/10.3390/heritage7010002
24. Nawar, M.T.; **El-Zohairy, A.***; Arafa, I.T. (**2023**) Finite Element Modeling and Analysis of Perforated Steel Members under Blast Loading. Modelling, 4, 628-649. https://doi.org/10.3390/modelling4040036
25. Salem, T.N.; **El-Zohairy, A.***; Abdelbaset, A.M. (**2023**) The Static and Dynamic Behavior of Steel Storage Tanks over Different Types of Clay Soil. CivilEng, 4, 1169-1181. https://doi.org/10.3390/civileng4040064

26. Emara, M.; Salem, M.A.; Mohamed, H.A.; Shehab, H.A.; **El-Zohairy, A.*** (**2023**) Shear Strengthening of Reinforced Concrete Beams Using Engineered Cementitious Composites and Carbon Fiber-Reinforced Polymer Sheets. Fibers, 11, 98. https://doi.org/10.3390/fib11110098
27. Ibrahim, T.H., Allawi, A.A., Oukaili, N.K., **El-Zohairy, A.*** (**2023**) "Theoretical Analysis of Composite RC Beams with Pultruded GFRP Beams Subjected to Impact Loading" *Journal of Engineering, Technology & Applied Science Research, 13(6), 12097-12107.* https://doi.org/10.48084/etasr.6424
28. Allawi, A.A, Chai, H.K., Majeed, A.A., **El-Zohairy, A.***, Al-Sherrawi, M.H., Edaan, E.M., and Ibrahim, T.H. (**2023**). "Experimental and FE Analysis of Reinforced Concrete Multi-cell Box Girders Retrofitted with Carbon Fiber Reinforced Polymer Strips under Torsion" Journal of Advances in Structural Engineering, 26(14). https://**doi.org/10.1177/13694332231196511**
29. Mohammed, S.D.; Ibrahim, T.H.; Salman, B.F.; Allawi, A.A.; **El-Zohairy, A.*** (**2023**) Structural Behavior of Reactive Powder Concrete under Harmonic Loading. Buildings, 13, 1917. https://doi.org/10.3390/buildings13081917
30. Mahmood, E.M.; Ibrahim, T.H.; Allawi, A.A.; **El-Zohairy, A.*** (**2023**) Experimental and Numerical Behavior of Encased Pultruded GFRP Beams under Elevated and Ambient Temperatures. Fire, 6, 212. https://doi.org/10.3390/fire6050212
31. **El-Zohairy, A.***; Mustafa, S.; Shaaban, H.; Salim, H.; Allawi, A.A. (**2023**) Numerical Modeling and Analysis of Strengthened Steel–Concrete Composite Beams in Sagging and Hogging Moment Regions. CivilEng, 4, 483-505. https://doi.org/10.3390/civileng4020028
32. Nawar, M.T.; **El-Zohairy, A.***; Maaly, H.M.; Husain, M.; Salama, I.; Mousa, E. (**2023**) Prestressed Steel-Concrete Composite I-Beams with Single and Double Corrugated Web. Buildings, 13, 647. https://doi.org/10.3390/buildings13030647
33. Ahmed, S.; **El-Zohairy, A.***; Eisa, A.S.; Mohamed, M.A.E.-A.B.; Abdo, A. (**2023**) Experimental Investigation of Self-Compacting Concrete with Recycled Concrete Aggregate. Buildings, 13, 856. https://doi.org/10.3390/buildings13040856
34. **El-Zohairy, A.**, Sanchez, M., Abediniangerabi, B., and Moler, P. (**2023**) "Performance of Rubberized Concrete and the Effect of Temperature and Stainless-steel Fibers" *Buildings Journal, 13(2), 280. https://doi.org/10.3390/buildings13020280*
35. Ibrahim TH, Allawi AA, **El-Zohairy A.*** (**2023**) "Experimental and FE analysis of composite RC beams with encased pultruded GFRP I-beam under static loads" *Advances in Structural Engineering, 26(3): 516–532 https://doi.org/10.1177/13694332221130795*
36. Abbas A. Allawi, Arshad Nadhom Shubber, Mohanned Al Gharawi, **Ayman El-Zohairy***, Teghreed H. Ibrahim, Ali Hussein Ali Al-Ahmed, and Ibrahim T. Arafa (**2023**). "Enhancement of RC T-beams Toughness using Laced Stirrups Reinforcement for Blast Response Predictions" *Journal of Structural Concrete, 24(3), 3839-3856. https://doi.org/10.1002/suco.202200894*
37. Emara, M.; **El-Zohairy, A.***; Fekry, M.; Husain, M. (**2022**) "Effect of Using ECC Layer on the Flexural Performance of RC Beams Previously Strengthened with EB CFRP Laminates" *Sustainability 2022, 14, 16990. https://doi.org/10.3390/su142416990*
38. Mahmood, E.M.; Allawi, A.A.; **El-Zohairy, A.*** (**2022**) "Analysis and Residual Behavior of Encased Pultruded GFRP I-Beam under Fire Loading" *Sustainability, 14, 13337. https://doi.org/10.3390/su142013337*
39. Nawar, M.T.; Kaka, M.E.; **El-Zohairy, A.***; Elhosseiny, O.; Arafa, I.T. (**2022**) "Effect of Supporting Base System on the Flexural Behavior and Toughness of the Lighting GFRP Poles" *Sustainability, 14, 12614. https://doi.org/10.3390/su141912614*
40. Mahmood, E.M.; Allawi, A.A.; **El-Zohairy, A.*** (**2022**) "Flexural Performance of Encased Pultruded GFRP I-Beam with High Strength Concrete under Static Loading" Materials *Journal, 15, 4519. https://doi.org/10.3390/ma15134519*

41. Al-Khafaji, A., **El-Zohairy, A.***, Mustafic, M., and Salim, H. (**2022**) "Environmental Impact on the Behavior of CFRP Sheet Attached to Concrete" *Buildings Journal, 12(7), 873; https://doi.org/10.3390/buildings12070873*.
42. Al-Ahmed, A. H. A., Al-Rumaithi, A., Allawi, A. A., and **El-Zohairy, A.*** (**2022**). "Mesoscale Analysis of Fiber-Reinforced Concrete Beams" *Journal of Engineering Structures, 266. https://doi.org/10.1016/j.engstruct.2022.114575*
43. Al-Ahmed, A.H.A.; Ibrahim F.H., Allawi, A.A.; and **El-Zohairy, A.*** (**2022**) "Behavior of One-Way Reinforced Concrete Slabs with Polystyrene Embedded Arched Blocks" *Journal of Buildings, 12(3), 331. https://doi.org/10.3390/buildings12030331*
44. Ibrahim, T. H., Allawi, A. A., **El-Zohairy, A.*** (**2022**). "Impact behavior of Composite Reinforced Concrete Beams with Pultruded GFRP I-Beam" *Journal of Materials, 15(2), https://doi.org/10.3390/ma15020441*
45. **El-Zohairy, A.***, Fahad Alsharari, Hani Salim, Ibrahim T. Arafa, and Mahmoud T. Nawar (**2022**). Monotonic property of steel–RC composite beams strengthened with externally pre-stressed tendons. *Canadian Journal of Civil Engineering. 49(7): 1173-1183. https://doi.org/10.1139/cjce-2021-0237*
46. **El-Zohairy, A.***, Salim, H., and Shaaban, H. (**2022**). "Experimental Investigation on Fatigue Behavior of Steel-Concrete Composite Beams with Different Shear Connection Arrangements" *Journal of Structure, 35, 146-159. https://doi.org/10.1016/j.istruc.2021.11.005*
47. Alsharari, F.; El-Sisi, A.E.-D.; Mutnbak, M.; Salim, H.; **El-Zohairy, A.** (**2022**) Effect of the Progressive Failure of Shear Connectors on the Behavior of Steel-Reinforced Concrete Composite Girders. *Buildings, 12, 596. https://doi.org/10.3390/buildings12050596*
48. Alsharari, F.; **El-Zohairy, A.**; Salim, H.; and El-Sisi, A. (**2021**). "Numerical Investigation of the Monotonic Behavior of Strengthened Steel-Concrete Composite Girders" *Journal of Engineering Structures,* 246*, 113081. https://doi.org/10.1016/j.engstruct.2021.113081*
49. Nawar, M.; Arafa, I.; Elhosseiny, O.; and **El-Zohairy, A.*** (**2021**) "Full Static Resistance of Castellated Steel Beams with Hexagonal Web Openings for Blast Response Predictions" *Engineering Structures. https://doi.org/10.1016/j.engstruct.2021.112844*
50. Tran, D.; Allawi, A.A.; Albayati, A.; Cao, T.; **El-Zohairy A.*,** Nguyen Y. (**2021**) "Recycled Aggregate for Medium Quality Concrete: Mechanical and Durability-Related Properties" Materials, 14*, 4612. https://doi.org/10.3390/ma14164612.*
51. Nawar, M.; Matar, E.; Maaly, H.; Alaaser, A.; and **El-Zohairy, A.*** (**2021**) "Assessment of Rotational Stiffness for Metallic Hinged Base Plates under Axial Loads and Moments" *Buildings, 11(8), 368. doi.org/10.3390/buildings11080368*
52. Khalaf, M.R.; Al-Ahmed, A.H.A.; Allawi, A.A.; **El-Zohairy, A.*** (**2021**) "Strengthening of Continuous Reinforced Concrete Deep Beams with Large Openings Using CFRP Strips" *Materials, 14, 3119. https://doi.org/10.3390/ma14113119*
53. Alsharari, F., **El-Zohairy, A.**, Salim, H., and El-Sisi, A. (**2021**). "Pre-Damage Effect on the Residual Behavior of Externally Post-tensioned Fatigued Steel-Concrete Composite Beams" *Journal of Structures, 32C, P. 578-587. https://doi.org/10.1016/j.istruc.2021.02.064*
54. **El-Zohairy, A.***, Hammontree, H., Oh E., and Moler, P. (**2020**). "Temperature Effect on the Compressive Behavior and Constitutive Model of Plain Hardened Concrete" *Journal of Materials, 13(12). https://doi.org/10.3390/ma13122801.*
55. **El-Zohairy, A.***, Alsharari, F., and Salim, H. (**2020**). "Analytical Model and Parametric Study for Static Flexural Behavior of Externally Post-tensioned Steel-RC Composite Girders" *Journal of Structures, 27. https://doi.org/10.1016/j.istruc.2020.05.060.*
56. **El-Zohairy, A.**, Salim, H., and Saucier, A. (**2019**). "Fatigue tests on steel-concrete composite beams subjected to sagging moments" *Journal of Structure Engineering, 145(5). https://doi.org/10.1061/(ASCE)ST.1943-541X.0002326*

57. **El-Zohairy, A.,** Salim, H., and Saucier, A. (**2019**). "Steel-Concrete Composite Beams Strengthened with Externally Post-Tensioned Tendons under Fatigue" *Journal of Bridge Engineering, 24(5). https://doi.org/10.1061/(ASCE)BE.1943-5592.0001390*
58. Al-Sherrawi, M., Allawi, A. A., AL-Bayati, B., Al Gharawi, M., and **El-Zohairy, A.** (**2018**). "Behavior of Precast Prestressed Concrete Segmental Beams" *Civil Engineering Journal, 4 (3): 488-496. DOI: 10.28991/cej-0309109*
59. **El-Zohairy, A.**, Salim, H., Shaaban, H., Mustafa, S., and Shihy, A. (**2018**). "FE Analysis and Parametric Study of Continuous Steel-Concrete Composite Beams Stiffened with Post-tensioned Tendons" *Journal of Advances in Structural Engineering, 21(6): 933-945 DOI: 10.1177/1369433217732495*
60. **El-Zohairy, A.**, Salim, H., Fawzy, H., Mustafa, S., and El-Shihy, A. (**2017**). "Experimental and FE Parametric Study on Continuous Steel-Concrete Composite Beams Strengthened with CFRP Laminates" *Journal of Construction & Building Materials, 157: 885-898. https://doi.org/10.1016/j.conbuildmat.2017.09.148*
61. **El-Zohairy, A.**, and Salim, H. (**2017**). "Parametric Study for Post-Tensioned Composite Beams with External Tendons" *Journal of Advances in Structural Engineering, 20 (10): 1433-1450. DOI: 10.1177/1369433216684352*
62. **El-Zohairy**, A., Salim, H., Fawzy, H., Mustafa, S., and El-Shihy, A. (**2015**). "Finite Element Modeling of Externally Post-Tensioned Composite Beams" *Journal of Bridge Engineering (ASCE), 20 (12).* DOI: 10.1061/(ASCE)BE.1943-5592.0000756
63. El-Shihy A. M., Fawzy H. M., Mustafa S. A. A., **El-Zohairy A. A.** (**2010**). "Experimental and Numerical Analysis of Composite Beams Strengthened with CFRP Laminates in Hogging Moment Region" *Journal of Steel and Composite Structures, 10 (3): 439-453.* https://doi.org/10.12989/scs.2010.10.3.281

Conference Proceedings

1. Ibrahim, T.H., Allawi, A.A., **El-Zohairy, A.** (**2025**). Encased Pultruded I-GFRP Beam under Impact Loading. SEI Structures Congress, from April 09, 2025 to April 11, 2025 in Phoenix, AZ. https://doi.org/10.1061/9780784486085.005
2. Elshazli, M.T., Nawar, M.T., and **El-Zohairy, A.** (**2025**). Analysis of Rubberized RC Beams under Blast Loading. SEI Structures Congress, from April 09, 2025 to April 11, 2025 in Phoenix, AZ. https://doi.org/10.1061/9780784486085.007
3. **El-Zohairy, A.**, Moler, P., Nawar, M.T. (**2025**). Effect of Stainless-Steel Fibers on Rubberized Concrete. In: Mansour, Y., Subramaniam, U., Mustaffa, Z., Abdelhadi, A., Ezzat, M., Abowardah, E. (eds) Proceedings of the ICSDI 2024 Volume 1. ICSDI 2024. Lecture Notes in Civil Engineering, vol 556. Springer, Singapore. https://doi.org/10.1007/978-981-97-8712-8_3
4. McGarry M. and **El-Zohairy, A.*** (**2023**). "Analytical Model and Analysis of Post-tensioned Continuous Composite Beams" *Structures Congress (ASCE), New Orleans, LA, May 3-6. https://doi.org/10.1061/9780784484777.009*
5. Van M. and **El-Zohairy, A.*** (**2022**). "Stainless Steel-Concrete Composite Beams Strengthened with External Tendons" *Structures Congress (ASCE), Atlanta, GA, April 20-23. https://doi.org/10.1061/9780784484180.016*
6. Allawi, A.A., Said, A.I., Al-Sherrawi, M.H., Albayati, A., Al Gharawi, M., **El-Zohairy, A.** (**2022**). Evaluation of Live Load Distribution Factors of a Highway Bridge. In: Karkush, M.O., Choudhury, D.

(eds) Geotechnical Engineering and Sustainable Construction. Springer, Singapore. https://doi.org/10.1007/978-981-16-6277-5_43

7. **El-Zohairy, A.***, Alsharari, F., Salim, H., Mostafa, S., and Shaaban, H. (**2020**). "Fatigued Composite Beam with Different Shear Connection Arrangement" *Structures Congress (ASCE), St Louis, MO, April 5-8. https://doi.org/10.1061/9780784482896.013*
8. Alsharari, F., **El-Zohairy, A.**, Salim, H., and Mutnbak, M. (**2020**). "Fatigue Testing of Post-Tensioned Steel-Concrete Composite Beams" *Structures Congress (ASCE), St Louis, MO, April 5-8. https://doi.org/10.1061/9780784482896.014*
9. **El-Zohairy, A.**, Salim, H., and Saucier, A. (**2019**). "Effect of Externally Post-Tensioned Tendons on the Fatigue Behavior of Steel-Concrete Composite Beams" *Structures Congress (ASCE), Orlando, FL, April 25-27. https://doi.org/10.1061/9780784482230.002*
10. **El-Zohairy, A.**, Salim, H., and Saucier, A. (**2019**). "Experimental Study on Fatigue Performance of Steel-concrete Composite Girders" *SEM Annual Conference, June 4-7, 2018, Greenville, SC. DOI.org/10.1007/978-3-319-95879-8_13*
11. Al-Sherrawi, M., Allawi, A. A., AL-Bayati, B., Al Gharawi, M., and **El-Zohairy, A.*** (**2019**). "Experimental Investigation of Segmental Post-tensioned Girders" *SEM Annual Conference, June 4-7, 2018, Greenville, SC. DOI: 10.1007/978-3-319-95053-2_12*
12. Allawi, A. A., AlBayati, A., Al Gharawi, M., and **El-Zohairy, A.*** (**2019**). "Experimental and Numerical Evaluations of Live Load Distributions of Steel-Concrete Composite Bridge" *SEM Annual Conference, June 4-7, 2018, Greenville, SC. DOI: 10.1007/978-3-319-95053-2_13*
13. Allawi, A. A., Al-Sherrawi, M., Al Gharawi, M., and **El-Zohairy, A.*** (**2019**). "A Case Study to Evaluate Live Load Distributions for Pre-stressed RC Bridge" *SEM Annual Conference, June 4-7, 2018, Greenville, SC. DOI: 10.1007/978-3-319-95053-2_11*
14. **El-Zohairy, A.** and Salim, H. (**2017**). "Numerical Analysis of Steel-Concrete Composite Beams Strengthened with Pre-stressed CFRP Plates" *American Society for Composites (ASC) 32nd Annual Technical Conference, October 23-25.*
15. **El-Zohairy, A.**, Salim, H., Fawzy, H., Mustafa, S., and Shihy, A. (**2017**). "Behavior of Continuous Steel-Concrete Composite Beams Reinforced with CFRP sheets" *American Society for Composites (ASC) 32nd Annual Technical Conference, October 23-25.*
16. **El-Zohairy, A.** and Salim, H. (**2017**). "Behavior of Post-tensioned Steel-Concrete Composite Beams Subjected to Hogging Moments" *American Society for Composites (ASC) 32nd Annual Technical Conference, October 23-25.*
17. **El-Zohairy, A.**, and Salim, H. (**2017**). "Behavior of Steel-Concrete Composite Beams under Fatigue Loads" *Conference and Exposition on Experimental and Applied Mechanics, Indianapolis, IN, June 12-15.* DOI 10.1007/978-3-319-62831-8_14
18. **El-Zohairy, A.**, and Salim, H., Shaaban, H., Mostafa S. (**2017**). "Continuous Composite Beams Stiffened with CFRP Sheet at the Hogging Moment Region" *Conference and Exposition on Experimental and Applied Mechanics, Indianapolis, IN, June 12-15.* DOI 10.1007/978-3-319-63552-1_7
19. **El-Zohairy, A.**, and Salim, H. (**2017**). "Parametric Study of External Strengthening of Composite Beams using Post-Tensioned Tendons" *Structures Congress (ASCE), Denver, CO, April 6-8, 58-67.* https://doi.org/10.1061/9780784480403.006

Conference Presentations/Posters/Judge/Competition

1. Juan Hernandez and **El-Zohairy, A.** (2024). "Shear Strength of Reinforced Concrete Beams with Recycled Concrete Aggregate", Annual Research Symposium at A&M-Commerce, April 17th. **(Poster)**
2. Sanchez, M. and **El-Zohairy, A.** (2023). "Effect of Rubber on Mechanical Properties of Concrete", Annual Research Symposium at A&M-Commerce, April 11th. **(Poster)**
3. Miller, J. and **El-Zohairy, A.** (2023). "Effect of Temperature and Stainless-steel Fibers on the Performance of Rubberized Concrete", 18th Annual Pathways Student Research Symposium. *Texas A&M University-Galveston, Galveston, TX, March 2-3.* **(Poster)**
4. TEXO Foundation student competition, Hurst, TX, February 20, 2023. (**Team Coach**)
5. Fall 2022 ACI Previous Concrete Cylinder Competition, Dallas, TX, 10/23/2022. (**Faculty Advisor**).
6. TEXO Foundation student competition, Irving Convention Center, Irving, TX, February 21, 2022. (**Team Coach**)
7. **El-Zohairy, A.** (2022). Annual Research Symposium A&M-Commerce, Texas A&M University-Commerce, *April 19th. (Judge)*
8. Villanueva, C. and **El-Zohairy, A.** (2022). "Mechanical Properties of Concrete with Recycled Coarse Aggregate", 17th Annual Pathways Student Research Symposium. *Texas A&M University, College Station, TX, March 3-4. (Poster)*
9. McGarry M. **and El-Zohairy, A.** (2022). "Compressive Strength of Concrete under Elevated Temperatures", Annual Research Symposium at A&M-Commerce, *April 19th. (Poster)*
10. **El-Zohairy, A.** (2021). Virtual Federation Research Symposium. Texas A&M University-Commerce*, April 9th. (Judge)*
11. **El-Zohairy, A.** (2019). 16th Annual Pathways Student Research Symposium. *Texas A&M International University, Laredo, TX, November 7-8. (Judge)*
12. **El-Zohairy, A.**, and Salim, H. (2017). "Steel-Concrete Composite Beams Subjected to Fatigue Loads" *Diverse Engineering Professionals Conference, Columbia, MO, October 7. (Poster)*
13. **El-Zohairy, A.**, and Salim, H. (2015). "Fatigue Analysis of Composite Beams Strengthened with Externally Post-Tensioned Tendons" *Mid-Continent Transportation Research Symposium, Ames, IA, August 19–20 (poster).*
14. **El-Zohairy, A.**, and Salim, H. (2015). "Analysis of Composite Beams Strengthened with Externally Post-tensioned Tendons" *1st Annual Missouri Bridge Conference, Columbia, MO, April 9 (poster).*

PROPOSALS/GRANTS

1- ***(Co-PI)*** *Automating Geomaterials for Smarter Pavement Construction,* 2025 TEES Annual Research Conference – 05/20-21/2025 ($7,500) (granted).

2- ***(PI)*** *MRI: Acquisition of 3D CONCRETE PRINTING ROBOT CELL for research and education in STEM fields at a primarily undergraduate institution,* National Science Foundation NSF - $133,140.00 – (Fall 2024) (Not selected).

3- ***(Co-PI)*** *Sustainability and life-cycle analysis for recycling materials in construction,* 2024 TEES Annual Research Conference – 05/20-21/2024 ($7,500) (granted).

4- ***(PI)*** *Evaluation of the Mechanical Properties of Concrete with Straw and Straw Ash,* Texas A&M University-Commerce Undergraduate Grant Program – 11/2023 ($500) (granted).

5- ***(PI)*** *Developing a Performance-Based Concrete Overlay Mix Design for Improved Resistance to Early-Age Cracking and Increased Durability,* Texas Department of Transportation (TxDOT) - 03/6/2023 ($297,914) (Not selected).

6- ***(PI)*** *Evaluation of Nanomaterials in Concrete for Improved Strength,* Texas A&M University-Commerce Undergraduate Grant Program – 10/2022 ($500) (granted).

7- ***(PI)*** *Evaluate Nanomaterials in Concrete for Improved Durability,* Texas Department of Transportation (TxDOT) - 03/8/2022 ($357,518) (NOT selected).

8- ***(Co-PI)*** *MRI: Acquisition of a desktop scanning electron microscope (SEM) for research and education in STEM fields at a primarily undergraduate institution,* National Science Foundation NSF – 01/18/2022 ($144,300) (granted).

9- ***(PI)*** *Mechanical Properties of Recycled Concrete Aggregate for Medium-Quality Structural Concrete,* Texas A&M University-Commerce Undergraduate Grant Program – 11/2021 ($500) (granted).

10- ***(PI)*** *Smart Health Monitoring Technique for Texas Pipeline System under Soil Movement and Natural Disasters*, 2021 Virtual TEES Annual Research Conference – 05/18/2021 ($5000) (granted).

11- ***(PI)*** *Investigate Live Load Distribution and Stability of Prestressed Concrete Girders during Construction,* Texas Department of Transportation (TxDOT) - 03/10/2021 ($45,000) (NOT selected).

12- ***(PI)*** *Mechanical Properties of Rubberized Concrete under Various Environmental Effects,* Texas A&M University-Commerce Undergraduate Grant Program – 11/2020 ($500) (granted).

RESEARCH PROJECTS

1- Evaluation of the Mechanical Properties of Concrete with Straw and Straw Ash. Engineering and Technology Department, Texas A&M University-Commerce, Commerce, TX, USA. *Sponsored by Undergraduate Grant Program, Texas A&M University-Commerce.* 11/2023 – present

2- Mechanical Properties of Recycled Concrete Aggregate for Medium-Quality Structural Concrete.
Engineering and Technology Department, Texas A&M University-Commerce, Commerce, TX, USA. *Sponsored by Undergraduate Grant Program, Texas A&M University-Commerce.* 11/2021 – present

3- Analytical and FE Modeling of Steel-Concrete Composite Beams at the Sagging and Hogging Moment Regions. Engineering and Technology Department, Texas A&M University-Commerce, Commerce, TX, USA. *Sponsored by Texas A&M University-Commerce.* 11/2019 – 06/2022

4- Rubberized High Strength Concrete (HSC) Strengthen with Stainless Steel Fibers.
Engineering and Technology Department, Texas A&M University-Commerce, Commerce, TX, USA. *Sponsored by Undergraduate Grant Program, Texas A&M University-Commerce.* 10/2020 – 05/2021

5- The Influence of Temperature on the Characteristic Compressive Strength and Constitutive Model of Plain Hardened Concrete. 11/2019 – 06/2020
Engineering and Technology Department, Texas A&M University-Commerce, Commerce, TX, USA. *Sponsored by Texas A&M University-Commerce.*

6- Effect of External Post-Tensioning on Fatigue Life of Shear Connectors in Steel-Concrete Composite Beams 03/2014 – 05/2021
Civil and Environmental Engineering Department, University of Missouri, Columbia, MO, USA. *Sponsored by the Egyptian Cultural and Educational Bureau, DeLong's Inc., and Coreslab Structures Inc.*

7- Experimental Investigation of Precast Prestressed Reinforced Concrete Segmental Beams
Civil Engineering Department, University of Baghdad, Baghdad, Iraq. *Sponsored by the University of Baghdad and Hammurabi Contracting Company.* 03/2015 – 10/2017

8- Strengthening of Steel-Concrete Composite Beams with CFRP Laminates at Hogging Moment Regions

04/2008 – 03/2009

Department of Structural Engineering, Zagazig University, Zagazig, Egypt. *Sponsored by Zagazig University and Sika Egypt.*

STUDENT RESEARCH SUPERVISION

- ✓ Thesis for Juan Hernandez "**A Comparative Analysis of Buildings in the United States and Mexico: Structure of Buildings, Materials Used, and the Reason for Each**" Honors College, Texas A7M University-Commerce – 2023 to present (In progress)
- ✓ Ph. D. dissertation supervision with Prof. Abbas Allawi. "**Behavior of Reinforced Concrete Composite Columns with GFRP I-Section**" University of Baghdad, Baghdad, Iraq. Name of Student: Ban Fadhil Salman. -2024 to present (In progress)
- ✓ Ph. D. dissertation supervision with Prof. Abbas Allawi. "**Fire-Resistance Evaluation of Composite Concrete-GFRP Pultruded I Section-Corrugated Metal Sheets Flexural Members**" University of Baghdad, Baghdad, Iraq. Name of Student: Muataz Ibrahim Ali. -2021 to 2024.
- ✓ MSc thesis supervision with Prof. Hesham Fawzy. **"Steel-Concrete Composite Beams under the Effect of Impact Loading"** Zagazig University, Zagazig, Egypt. Name of student: Abdalla Zidan – 2023 to present (In progress)

REVIEWER ACTIVITIES

1- **Guest Editor of Special Issue "** Investigations of Steel–Concrete Composite Structures Under Static and Dynamic Loading Conditions" Buildings Journal, 11/2024 – 11/2025.
2- ***Guest Editor of Special Issue*** "Incorporating Advanced New or Recycled Materials in Reinforced Concrete Structures" Materials Journal, 08/2024 – 06/2025. (**TWO published papers**)
3- 2023 NSF Engineering CAREER Workshop Mock Panel Session - Tuesday, May 9th, 2023
4- ***Guest Editor of Special Issue*** "Modeling and Testing of Reinforced Concrete or Composite Structures Using Advanced New Materials" Materials Journal, 11/2021 – 03/2023. (**22 published papers**)
5- ***Topical Advisory Panel Member of Materials Journal*** (https://www.mdpi.com/journal/materials).
6- ***Ad hoc reviewer*** for Elsevier, ASCE, Taylor & Francis, ACI, etc.:
   - *MDPI journals (Applied Sciences Journal, Materials Journal, Buildings Journal, Fibers Journal, Metals Journal, Symmetry Journal);*
   - *Elsevier journals (Construction and Building Materials, Engineering Structures, Thin-Walled Structures, Structures);*
   - *Sage journals (Advances in Structural Engineering);*
   - *International journals (Journal of King Saud University, Engineering Science and Technology, Journal of Materials Engineering and Performance, Structure and Infrastructure Engineering, Materials Research Express, Advances in Civil Engineering).*

TEACHING EXPERIENCE

East Texas A&M University, Commerce, TX, USA

Department of Engineering & Technology

1- CONE 413 - Design & Const of Steel
2- CONE 414 - Design & Const of Concrete
3- CONE 331 - Mechanics of Materials
4- CONE 332 - Structural Analysis and Design
5- CONE 341 - Engineering Hydrology and Hydraulic
6- CONE 351 - Surveying for Construction
7- CONE 322 – Construction Planning and Scheduling
8- CONE 221 - Building Construction
9- CONE 321 - Construction Estimating
10- CONE 489 - Research in Construction Engineering
11- ENGR 2303 - Engineering Mechanics
12- ENGR 1304 - Computer-Aided Design (CAD)

University of Missouri, Columbia, MO, USA
Civil and Environmental Engineering Department

Adjunct Instructor:

1- CV_ENG 3300 - Structural Analysis I. (Fall 2018)

Teaching Assistant:

2- ENGR 1200 - Statics and Elementary Strength of Materials (online course). (Falls, Springs, and Summers of 2015-2018)
3- ENGR 2200 - Intermediate Strength of Materials. (Fall 2015, Springs of 2016 and 2018, and Summer 2018)

Zagazig University, Zagazig, Egypt
Department of Structural Engineering

Lecturer:

1. Computer-Aided Design of Structures.
2. High Rise Buildings Design.
3. Earthquake engineering.
4. Structure Analysis Program (SAP2000)
5. Computer-Aided Design (CAD)

Teaching Assistant:

1. Theory of Structures I, II, and III. (Falls of 2007-2012)
2. Structural Mechanics I, II. (Springs of 2006-2013)
3. Plates and Shells. (Springs of 2006-2013)
4. Matrix Methods of Structural Analysis. (Falls of 2007-2012)

TEACHING EVALUATIONS

- Comparative Analysis - Score Table

Semester		Response Ratio	Instructor	Department	College	University
Spring 2019	Instructor questions	**94%**	**4.78**	4.47	4.39	4.42
	Course Questions		**4.70**	4.45	4.38	4.42
Fall 2019	Instructor questions	**94%**	**4.88**	4.40	4.37	4.41
	Course Questions		**4.80**	4.31	4.34	4.40
Spring 2020	**No course evaluations due to Covid-19**					
Fall 2020	Instructor questions	**78%**	**4.74**	4.43	4.32	4.42
	Course Questions		**4.75**	4.44	4.34	4.42
Spring 2021	Instructor questions	**85%**	**4.63**	4.48	4.29	4.36
	Course Questions		**4.65**	4.57	4.37	4.44
Fall 2021	Instructor questions	**78%**	**4.66**	4.53	4.31	4.35
	Course Questions		**4.77**	4.56	4.38	4.41
Spring 2022	Instructor questions	**74%**	**4.90**	4.59	4.43	4.42
	Course Questions		**4.91**	4.67	4.49	4.47
Fall 2022	Instructor questions	**94%**	**4.73**	4.58	4.41	4.42
	Course Questions		**4.76**	4.60	4.47	4.47
Spring 2023	Instructor questions	**98%**	**4.72**	4.50	4.38	4.41
	Course Questions		**4.74**	4.51	4.44	4.46
Fall 2023	Instructor questions	**83%**	**4.59**	4.58	4.36	4.39
	Course Questions		**4.66**	4.61	4.44	4.44
Spring 2024	Instructor questions	**98%**	**4.82**	4.56	4.43	4.42
	Course Questions		**4.87**	4.58	4.49	4.47
Fall 2024	Instructor questions	**68%**	**4.78**	4.53	4.35	4.43
	Course Questions		**4.87**	4.60	4.43	4.49

TRAINING IN TEACHING

Texas A&M University-Commerce, Commerce, TX, USA

1- ACUE Course: **Fostering a Culture of Belonging** (Fall 2024)

- ✓ Gain proven strategies to create a more equitable and just environment and promote a sense of belonging for students and colleagues.
- ✓ Manage the impact of implicit bias, reduce microaggressions, address imposter phenomenon and stereotype threat, and create inclusive learning environments.

2- ACUE Course: **Advanced Certificate in Effective Teaching Practice Framework** (2023-2024).

- ✓ Designing learner-centered and equitable courses.
- ✓ Establishing a productive learning environment.
- ✓ Using active learning strategies.
- ✓ Promoting higher order thinking.
- ✓ Assessing to inform instruction and promote learning.

3- ACUE Course: **Certificate in Effective College Instruction** (2021-2022)
- Designing an effective course and class.
- Establishing a productive learning environment.
- Using active learning techniques.
- Promoting higher order thinking.
- Assessing to inform instruction and promote learning.

University of Missouri, Columbia, MO, USA

1- Orientation for New International Teaching Assistants (ONITA). (Fall 2015)

2- Teaching for Learning Workshop (Spring 2017)

3- 2nd Annual Teaching Renewal Week (Spring 2017):
Intentional Syllabus - Engagement - Dealing with Distracted Students - Defining and Preventing Plagiarism/Cheating - Grading/Assessment.

Zagazig University, Egypt

A program for teaching training as a requirement for the Assistant Lecturer position. The program titled *"Skills Development of Teaching Staff and their Assistants"* offered by *Faculty and Leadership Development Center (FLDC): Zagazig University*. The program includes these courses:

1. Using technology in teaching
2. Ethics of scientific research
3. International publication of papers
4. Effective communication skills
5. Testing systems and students' evaluation

UNIVERSITY SERVICE

- ✓ ***ADVISING STUDENTS***
  1- **Faculty advisor**: In this role, I am advising CONE students and helping them with Classes Registration and reviewing the Graduation Checklist.

- ✓ ***COMMITTEES***
  1- **Department's Tenure and Promotion (T&P) Committee**: this committee plays a critical role in ensuring a fair, transparent, and rigorous evaluation process for faculty members seeking tenure and/or promotion.

2- **Scholarship committee member**: In this role, I am serving in the scholarship committee as a member to review and evaluate applicants in the Scholarship Portal.
3- **Faculty Development Leave Committee member**: In this role, I am serving in the Faculty Development Leave Committee as a member to review and evaluate the applications of the faculty.
4- **Department curriculum committee:** In this role, we are discussing the department minors and any other curriculum changes.
5- **ABET Preparation**: In this role, I participated in preparation for the ABET visit. I prepared the Student Learning Outcomes (SLOs) for my courses as well as the other required documents.
6- **Search Committee Member** (2023): In this role, I am a member of the search committee for the position of Department Head for Engineering and Technology.
7- **Search Committee Member** (2022-2023): In this role, I am a member of the search committee for the position of Tenure-Track Assistant Professor of Construction Engineering.
8- **Search Committee Chair** (2020-2022): In this role, I am the chair of the search committee for the Tenure-Track Assistant Professor of Construction Engineering position.

✓ ***ORGANIZATIONS AND COMPETITIONS***

1- **Student Organization Advisor**: In this role, I am serving as the advisor for the Student Construction Association.

COMMUNITY SERVICE

1- Member of the Construction Committee at McKinney Islamic Association

As a Professional Engineer (PE), I am volunteering to review the architectural and structural designs of the new McKinney Community Building, McKinney, TX.