

**ELIYA HENIN, Ph.D., P.E., S.E.**

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**Highlights**

- Excellent educational background, includes a Ph.D. in Construction Engineering from the University of Nebraska-Lincoln (UNL), progressive research activities and publications, and outstanding teaching, both at the undergraduate and graduate levels
  - Professional Civil Engineer with over twelve years of academic and consulting expertise in the structural analysis and design. Experience also extended to the design and construction bridges, buildings, feed mills, flour mills, grain storage facilities, truck and rail receiving and ancillary buildings
  - Accomplished several steel and concrete building structural design projects with seismic considerations. Experienced in precast/ prestressed products production, erection and maintenance, including bridge products and building products
  - Extensive experience in structural analysis and design software such as; SAP 2000, ETABS, SAFE, and RISA 3D
  - Registered as Professional Engineer and Professional Structural Engineer in Nebraska and Illinois
  - published over 12 publications in multiple journal and multiple publications in conference/workshop publications
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**EDUCATION**

***05/2012***

**Ph.D.**, College of Engineering, University of Nebraska -Lincoln, NE

Major : Construction Engineering

Minor : Structural Engineering

Dissertation: “ Efficient Precast/Prestressed Floor System for Building Construction”

GPA : 3.983

Supervisors: Drs. George Morcouc and Maher Tadros

***02/2006***

**M.Sc.**, College of Engineering, Assiut University, Assiut, Egypt

Major : Civil Engineering

Minor : Structural Engineering

Thesis : “Buckling Behavior of Steel Frames with Corrugated Shear Walls”

Supervisors: Drs. Fathalla El Amin and Mohamed Farag

***07/2001***

**B.Sc.**, with honors, College of Engineering, Assiut University, Assiut, Egypt

Major : Civil Engineering

Minor : Structural Engineering

Graduation Project: “Analysis and Design of Special Structures”

Project Grade: Distinction (Ranked the Second out of 400 students)

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## HONORS AND AWARDS

- University of Nebraska – Lincoln: Wrieth Scholarship of Excellence, 2011
  - Precast/Prestressd Concrete Institute, Big Beam Contest (2010):
    - First Place Entry in Zone Three
    - Fourth Place Entry in the Nation
  - University of Nebraska–Lincoln: Assistant ship, 2009
  - Egyptian Engineers Syndicate (EES): Award of Excellence, 2001
  - Assiut University: Award of Excellence, 2000
  - Assiut University: Award of Excellence, 1999
  - Assiut University: Award of Excellence, 1998
  - Assiut University: Award of Excellence, 1997
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## PROFESSIONAL EXPERIENCE

***1/2015 - Present***

- SENIOR DESIGN ENGINEER
- Omaha Public Power District (OPPD)( Omaha, NE)
- Senior Design Engineer for Civil, Structural engineering utility firm.  
Work includes:
  - Provide the required engineering, design, analysis, planning, estimates, and review for District design tasks that are accurate and timely.
  - Prepare material specifications, material contracts, outside service contracts, and any related contract management or construction inspection for assigned projects
  - Issue work orders for Network Maintenance, Vault rebuilds, and Manhole rebuilds so time is allowed for the work to be completed by the need date
  - Provide technical direction and training to entry level Engineers and Designers.
  - Provide technical assistance for the design of self-sustained poles or any special guying situation.
  - Provide technical assistance for any structural need.
  - Provide Professional Engineer review and stamping where legally required
  - Investigate and make recommendations for innovations that would improve the economy or performance of any kind of distribution structure or piece of equipment. This could include (but is not limited to) the use of a precast vault, issuing a Standard for a self-sustaining pole, or issuing a Standard for anything that would improve efficiency.

***9/2014 - Present***

***ASSISTANT PROFESSOR (on Leave)***

Civil Engineering Department  
Assiut University  
Arab Republic of Egypt  
Assiut 71515

***5/2012 – 12/2014***

***STRUCTURAL ENGINEER***

**Ebmeier Engineering, LLC (Glenwood, Iowa)**

- Design Engineer for civil, structural and mechanical consulting engineering firm. Work includes:
  - The structural design of agricultural, commercial, and industrial projects,

including: feed mills, flour mills, grain storage facilities, truck and rail receiving, and ancillary buildings. On-site forensic engineering and analysis. Production drawing review, engineering research, and reports.

- Examples of work projects
  - Structural design of 3 – 61 ft. diameter silo storage units (**BORTON contractors & Engineers – Long beach, CA**). The project includes design of foundation on stabilized soil (CDSM design by others), design of silo slip walls and inserts, design of roof (structural steel and roof deck w/ metal decking) and roof inserts including frames for future explosion venting, design of tunnels, interior slabs, tunnel walls and inserts, design of roof conveyor platform structure for each silo, design of walkway bridges (as necessary) between silo structures.
  - Structural design of 3-56 ft. diameter concrete silo roof. (**BORTON contractors & Engineers – Medley, FL**). The projects includes demolition the existing roof ,design a new roof(structural steel and roof deck w/ metal decking and roof inserts), design of steel hoist frame , design of steel frames supporting the cement pipes charging the silos, and design of the temporary construction frames and deck during the construction stage.
  - Structural design of Grain Storage Facility. (**Adams Building Contractors, Inc. – Atchison, KS**). The project includes; structural review of existing receiving Pit, onsite observation and identification of items of structural concern, review original receiving pit drawings, submittal of engineering report with recommendations, design of the truck receiving pit, structural design of concrete wall stiffening of damaged areas and for interior wall removal, design interior wall and pilaster demolition plan, design of truck driveway slab support framing and slab reinforcing, design of 3 truck receiving hoppers with grating at driveway level, design tunnel modification for bucket elevator boot pit.
  - Design of bucket elevator maintenance access doors/platforms and modified bucket elevator platform and lifting hoist. (**EOG Resources – Refugio, TX.**). The project includes; review of existing bucket elevator structure for proposed modifications, design of elevated exterior platform, man access door, and interior bucket elevator platform for head pulley inspection and maintenance, design of man access door and interior bucket elevator platform above bucket elevator inlet for inspection and maintenance of buckets, design of hinged door system and sealed latching system for easier maintenance access to bucket elevator (head pulley access doors, bucket maintenance access doors, clean out doors at bottom of bucket elevators), design of steel corbel to facilitate lifting of lower bearing for inspection and/or replacement, review of existing head drive platform structure and bucket elevators for structural adequacy to sustain 27,000 pound vertical lift above bucket elevators and 8,000 pound hoist capability for lowering items to the ground, develop a design concept for hoist availability to meet lifting requirements for motors, gearbox, bearings, covers, pulleys, and complete structural analysis and develop design concept for recommended structure modifications required to achieve desired hoist capability described above

- Design of flour mill building, (*Young love Construction, LLC. – Glidden, IA*). The project includes; design of corn storage bin foundation, design of tempering bins foundation, and design of Mill Building Foundation

**08/2009-05/2012**

**RESEARCH ASSOCIATE**

University of Nebraska- Lincoln, Nebraska, College of Engineering  
Construction Engineering Program

- Instruct tutorials and labs for the following undergraduate courses:
  - Heavy / Civil Estimating (CONE 8666)
  - Construction Materials & Test (CNST 2520)
  - Architectural Structures II (CNST-3320)
  - Introduction to Structural Engineering (CIVE-341)
  - Strength of Materials (EMEC-3240)
- Collaborate with faculty advisors on state-of-the-art projects, funded by organizations such as National Science Foundation, Charles Pankow Foundation, Nebraska Department of Roads, and Hughes Brothers.
- Design and construct experience in precast prestressed products production, erection and maintenance, including bridge products, and building products

**04/2006-08/2009**

**ASSISTANT LECTURER**

Assiut University, Assiut, Egypt, College of Engineering  
Civil Engineering Department

- Instructed the tutorials and labs for the following undergraduate courses:
  - Theory of Structures (C221, C321)
  - Design of Steel Constructions (C322)
  - Design of Steel Bridges (C427)
  - Contracts & Specifications (C428)
- Conducted research in effect of FRP sheet's confinement on the columns compressive strength
- Responsible for preparing plans, specifications, and estimates, project coordination and team supervision, including buildings, bridges, and other structures

**11/2011-03/2006**

**RESEARCH ASSISTANT**

Assiut University, Assiut, Egypt, College of Engineering  
Civil Engineering Department

- Instructed the tutorials and labs of the following courses:
  - Theory of Structures (C121)
  - Railway Engineering (C429)
  - Properties & Strength of Materials (C123, 225)
  - Design of Concrete Structures (C222)
- Conducted research in the buckling behavior of steel frames with and without corrugated shear walls

**06/2007-07/2009**

**DESIGN AND CONSTRUCTION ENGINEER**

United Consulting Engineering and Constructions (UCEC) Co. 6<sup>th</sup> of October City, Egypt.

- Prepared the structural analysis and design of the following projects:

- Designed three \$600,000 residential programs in Six-Story Buildings in New-Assiut City
- Designed \$200,000 residential projects in New-Assiut and 6th of October Cities Under the government program Built Your Home
- Designed and Constructed a \$500,000 two residential multi-story building projects

**06/2002-05/2006**

***DESIGN AND CONSTRUCTION ENGINEER***

Engineering Consultant

- Served as Construction Engineer for residential buildings, churches, schools and hospitals
- Designed and Constructed Steel trusses for covering a halls

**1997-2000**

***INTERNSHIP***

- The Arab Contractors (Osman Ahmad Osman) &Co.
- Orascom Construction Industries Co.

**FUNDED RESEARCH ACTIVITIES**

- Virtual Interactive Construction Education (VICE-Bridge), National Science Foundation \$200,000 Grant May 2011 – April 2013
- Bond-Dependent Coefficient of Fiber-Reinforced Polymer (FRP) Rods, Hughes Brothers Inc., \$3,500, July 2011
- Design and Construct of Tornado-Resistant Precast/Prestressed Concrete Sandwich Panel with NU-Ties, Composite Insulated Concrete Systems, LLC., \$1,350, Jan. 2011
- Testing NU-Tie Embedment, Hughes Brothers Inc., \$2,500, July 2010
- Load Rating of Complex Bridges, NDOR, \$23,518, July 09 – June 10
- Continuous Shallow Hollow-Core Floor System, Charles Pankow Foundation, \$105,000, November 08 – August 10

**NON-FUNDED RESEARCH ACTIVITIES**

- Design and Construction of Precast Prestressed Flat Soffit Shallow Floor System.
- Design and Construction of Precast Concrete Sandwich Panels
- Bars-Splice for Precast Concrete Construction
- Effect of FRP Sheet's Confinement on the Column's Compressive Strength
- Buckling Behavior of Steel Frames with and without Corrugated Shear Walls

**JOURNAL PUBLICATIONS**

*Published /  
Accepted /  
Submitted Articles*

1. **Eliya Henin**, George Morcouc, and Maher K. Tadros "Design and Construction of Static-Cast Glass-Fiber Reinforced Concrete Poles" In Progress
2. **Eliya Henin**, George Morcouc "Bond Behavior of Glass Fiber Reinforced Polymer (GFRP) bars" In progress.
3. **Eliya Henin**, George Morcouc "Non-Proprietary Bar Splice Sleeve For Precast

Concrete Construction” Published in Engineering Structures Journal, Vol 83, Pp,1455-162, January, 2015

4. George Morcouc, **Eliya Henin**, Maher K. Tadros, Faten Fawzy, and Mark Lafferty “A New Shallow Precast/Prestressed Concrete Floor System For Multi-Story Buildings in Low Seismic Zones” Engineering Structures Journal, Vol. 60, February, 2014
5. **Eliya Henin**, George Morcouc, and Maher K. Tadros “Precast/Prestressed Sandwich Panels For Thermally Efficient Floor Applications” Practice Periodical on Structural Design and Construction Journal, 2014
6. **Eliya Henin**, George Morcouc, and Maher K. Tadros “Flat Soffit Shallow Precast Floor System ” Practice Periodical on Structural Design and Construction Journal, Vol. 18, No. 2, May, 2013
7. **Eliya Henin**, James D. Goedert, and George Morcouc “A Shallow Flat Soffit Precast Floor System: A Comparative Analysis” Journal of the American Institute of Constructors, Vol. 36, No. 02, October, 2012
8. Fathalla El Amin , M. Farge, K. Hassan, and **Eliya Henin**, “Effect of the Spacing of Fasteners Used to Attach the Corrugated Shear Plate to the Envelope Frame on Its Elastic Behavior” Journal of Engineering Science, Vol. 34, No. 3, May 2006, Assiut University, Egypt.
9. Fathalla El Amin, M. Farge, K. Hassan, and **Eliya Henin** “Elastic Buckling Behavior of Steel Frames with Corrugated Shear Walls”, Journal of Engineering Science, Vol. 33, No. 3, May, 2005, Assiut University, Egypt.

#### CONFERENCES / WORKSHOP PUBLICATIONS

*Published /  
Accepted /  
Submitted Articles*

1. Kromel Hanna, **Eliya Henin**, Nathan Toneies, and Maher K. Tadros “Design, Detailing and Testing of Cladding Panels Using GFRP Ties” Proceeding of the PCI Convention and National Bridge Conference, Salt Lakes-Utah, October, 2011
2. George Morcouc, **Eliya Henin**, Mark Lafferty, and Maher K. Tadros “Design and Testing of Tornado-Resistant Precast/Prestressed Concrete Sandwich Panels with GFRP Ties” Proceeding of the PCI Convention and National Bridge Conference, Salt Lakes-Utah, October, 2011
3. **Eliya Henin**, George Morcouc, and Maher K. Tadros Tadros “Precast Concrete Sandwich Panels for Floor and Roof Applications” Proceeding of the PCI Convention and National Bridge Conference, Salt Lakes-Utah, October, 2011
4. **Eliya Henin**, George Morcouc, and Maher K. Tadros “Construction of a Shallow Flat Soffit Precast Floor System ” ASC 47th Annual International Conference, Omaha - Nebraska, April, 2011

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#### TECHNICAL REPORTS

- Determination of Bond-Dependent Coefficient of Fiber-Reinforced Polymer (FRP) bars, August 2011
- Flat Soffit Shallow Precast Floor System, Nebraska University, May 2011
- Testing of Tornado-Resistant Precast/Prestressed Concrete Sandwich Panel with NU-Ties, Nebraska University, February 2011
- Effect of NU-Tie Embedment on the Design of Precast Concrete Sandwich

Panels, Nebraska University (Phase I and II), September 2010 and August 2011

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### **PROFESSIONAL ACTIVITIES**

- American Concrete Institute (ACI), member since 2009
  - American Society of Civil Engineers (ASCE), member since 2009
  - Precast/Prestressed Concrete Institute (PCI), member since 2010
  - Egyptian Engineers Syndicate (EES), member since 2001
  - Portland Cement Association (PCA), member since 2011
  - Team leader for Big Beam Contest 2010, and 2011
  - American Institute of Steel Construction, member since 2012
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### **CERTIFICATED TRAINING PROGRAMS**

Faculty and Leadership Development Center – Assiut University (Egypt)

- Effective Teaching
- Teaching with Technology
- Trends in Teaching
- Use of Technology in Teaching
- International publishing of Research
- Code of Ethics
- Research Team Management
- Credit Hour System
- Communication Skills

### **CERTIFICATIONS**

- **DOCTOR OF PHILOSOPHY (Ph.D.)**
    - University of Nebraska, May 2012
  - **PROFESSIONAL ENGINEER**
    - State of Nebraska
  - **STRUCTURAL ENGINEER**
    - State of Nebraska
    - State of Illinois
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### **TECHNICAL SKILLS**

- **Linguistic skills**
  - Arabic
  - English
- **Computer skills**
  - Structural Analysis and Design Software
    - SAP2000
    - COSMOS 2.8
    - RISA 3D
    - ETABS
    - SAFE
  - Computer Aided Design Software
    - AutoCAD
  - Building Information Modeling Software
    - Autodesk Architectural Revit

- Graphisoft ArchiCAD
- Vico Constructor