

## Curriculum Vitae 2015

### Maha Moddather Hassan

#### **Personal Data:**

**Date of Birth:** 15-09-1985

**Nationality:** Egyptian

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#### **Present Position:**

- Assistant Professor, Structural Engineering Department, Cairo University, Egypt.

#### **Education:**

- B.Sc. in Civil Engineering, June 2007 (Distinction with Honor degree, 4.00 GPA), Faculty of Engineering, Cairo University, Egypt.
- M.Sc. in Structural Engineering, November 2009, Faculty of Engineering, Cairo University, Egypt.  
Thesis Title: Assessment of Force Reduction Factor for Steel Frames in The Egyptian Code
- PhD in Structural Engineering, September 2013, Faculty of Engineering, Cairo University, Egypt.  
Thesis Title: Cyclic Behavior of Concrete Filled Tube Column Connections in Concentrically Braced Frames

#### **Honors and Awards:**

- Certificate of Honor From Cairo University in the "Ceremony of Science" attended by ministers (January 2008) for being the 1st rank student in the faculty of engineering
- The Prize of the 1<sup>st</sup> rank student from Faculty of Engineering ( 2007)
- Soil Mechanics and Foundations Research Laboratory Prize, Cairo University, 2006.
- Soil Mechanics and Foundations Research Laboratory Prize, Cairo University, 2007.
- Distinction and Best Senior Steel Structures Award - Prof. Dr. Shafeek Aggour Award, Cairo University, Egypt, 2007.
- Best Student Award in Harbor Engineering, 2007.

- Cairo University Excellence Award, Cairo University, Egypt, 2003, 2004, 2005, 2006 and 2007.
- Nominated for attending Science Day attended by President of Egypt, 2008.
- Nominated for attending Obama's speech at Cairo University, 2009.
- Teaching Assistantship and Tuition Scholarship, Cairo University, 2008 to 2013.

### **Training and Courses:**

- August 2006 – September 2006: Zamil Steel Buildings Co.
  - Special Design and drawing softwares (Asfad, Agosad, and Ezbuild).
  - Techniques of steel structures design.
  - Different materials used in construction and finishing.
  - Detailing and workshop drawings.
- July 2006 – September 2006: Helal bureau for Consulting and Structural Design
  - Design of a factory containing RC units (i.e., wafel slabs, irregular flat slabs, double height halls).
- July 2005 – August 2005: Helal bureau for Consulting and Structural Design
  - Design of RC units (villas).
- July 2004 – August 2004: Faculty of Engineering, Cairo University
  - Public survey works.
- 12 – 14 July 2010: Effective Communication Skills, FLDC, Cairo University.
- 25 – 27 June 2011: Credit Hour System, FLDC, Cairo University.
- 16 – 18 January 2012: Examination Techniques & Student Evaluation, FLDC, Cairo University.
- 12 – 14 June 2012: Meetings & Managing Time, FLDC, Cairo University.
- 29 – 31 December 2012: University Code of Ethics, FLDC, Cairo University.
- 1 – 3 January 2013: Conference Organization, FLDC, Cairo University.
- 12 – 14 January 2013: E – Learning, FLDC, Cairo University.
- 20 – 21 July 2013: International Publishing of Scientific Research, FLDC, Cairo University.

- 24 – 27 July 2013: Quality Standards in Teaching, FLDC, Cairo University.
- 31 July – 1 August 2013: Effective Presentation Skills, FLDC, Cairo University.
- 14 – 16 September 2013: Legal and Financial Aspects in University Environment, FLDC, Cairo University.
- 28 - 29 September 2013: Effective Teaching Skills, FLDC, Cairo University.
- 18 – 19 August 2014: University Management, FLDC, Cairo University.
- October 2013: Learn to Program – the Fundamentals (MOOC, Coursera), Faculty of arts and science, University of Toronto.

### **Experience:**

#### **Teaching:**

- April 2007 – October 2009: Teaching Assistant, Structural Engineering Department, Cairo University, teaching Structural Steel Design and Metallic Bridges.
- April 2007 – October 2010: Teaching SAP2000 courses at Sysnet Computer lab, Cairo University, Faculty of Engineering.
- November 2009 – September 2013: Assistant Lecturer, Structural Engineering Department, Cairo University, teaching Structural Steel Design and Metallic Bridges.
- Fall 2010 – Spring 2013: Teaching Assistant, Construction Engineering Department, American University in Cairo, teaching principles of structural analysis, and design of concrete and steel members (ENG212, CENG307, CENG452, CENG301, CENG302, CENG305, CENG306, CENG490)
- Participated in the Solar Decathlon Competition, China 2013 as part of the AUC team.
- Spring 2014 – till now: Adjunct Professor, Construction Engineering Department, American University in Cairo, teaching principles of structural analysis (CENG301).
- October 2013 – till now: Assistant Professor, Department of Civil Engineering, Cairo University, Egypt.
  - Undergraduate Studies: Steel Design I, Steel Design II, Metallic Bridges, and Graduation Project.

- Graduate Studies: Plastic Steel Design, and Design of Steel Structures using Ultimate Limit State Method.
  - Credit Hours System: Steel Design III, and Structural Design and Surveying.
- Spring 2014 – till now: Teaching Information Ethics Course at the Egyptian E-Learning University (EELU).
- Fall 2013 – Fall 2014: Member of the Control of Questions Committee responsible for receiving, coordinating and sending exams for undergraduate students, Cairo University, Faculty of Engineering.
- Fall 2014 – till now: Member of the Control of Questions Committee responsible for receiving, coordinating, sending exams, and recording grades for qualification exam for Structural Engineering Department, Faculty of Engineering, Cairo University.
- April 2014 – till now: Member of the permanent committee of the Egyptian Code for Basis of Design, Ministerial decree 276, 2014.

### **Design and Consultation:**

- January 2014 – till now: EHAF Consulting Engineers, Structural Senior Engineer.
- September 2010 – till now: Freelance Structural Engineer.
- November 2009 – December 2013: EGEC House of Expertise, Structural Engineer.
- November 2007 – October 2009: Nile Consultant for Structural Design, Structural Engineer.
- July 2007 - September 2007: Cosmos Consultant for Structural Design, Structural Engineer.

### **Light Steel Works**

- Design of steel shed, Village Gate, Bolak Abo Alella General Hospital, Egypt, 2014.
- Design of steel pedestrian bridges and entrance steel frames, Village Gate, Commercial Building, Palm Hills Development, Egypt, 2014.
- Design of different steel components including stairs, chiller supports, and catwalks, Al-Shamla, Pharmaceutical Factory, King Abdullah Economy City, Jeddah, Saudi Arabia, 2014.
- Proposing and designing steel system required to raise Raya Logo Signs, Raya Main Building, 6<sup>th</sup> October, Egypt, 2014.

- Design of steel systems supporting Pfizer Logo and steel space trusses, Administration Building, Pfizer Egypt, 2013.
- Design of different fiber glass elements including stairs, circular tanks, pyramid shed, Metro Carriage, swimming pool shed, and posts, Techno Fiber Company, Egypt, 2010-2013.
- Review of steel frames supporting GRC Domes and steel crane beams, Al-Jazzimia Towers, Doha, Qatar, 2011.
- Design of 8m pole steel tower including the foundation works, Al Ain Distribution Company (Contractor), Abu Dhabi, 2011.
- Design of steel roof shed, El-Tebeen Mill, Egypt, 2011.
- Review of different steel units, Shah Gas Development Program, Gulf Prefab Houses Factory, Abu Dhabi, 2011.
- Preparing calculation sheets for light steel structures including sheds, signs,..etc for Dagash Company, Egypt, 2010.
- Design of steel beams acting as chiller supports, El Sewedy Administration Building, Egypt, 2010.
- Design of steel catwalks, Bradley ER Type Broadfield Unit, Egypt, 2010.
- Design of steel shed and foundation works, Ready Mix Concrete Unit, 6<sup>th</sup> October, Egypt, 2008.
- Design of different steel elements, Egyptian Radio & Television Broadcast Center – El Mokattam, Cairo, Egypt, 2007.
- Design of steel stair case, Suez Fertilizer Factory (Senco), Suez, Egypt, 2007.
- Design of steel frames used as exhibitions at Ghabour-Hurgada, 2007.

### **Steel & Concrete Design & Review Works**

- Design of different steel and concrete units in addition to foundation works, Schlumberger Integrated Design Base, 6<sup>th</sup> October, Egypt, 2014.
- Review of the structural design of different concrete elements of Gold Villas, King Abdullah Economy City, Jeddah, Saudi Arabia, 2014.
- Review of concrete design including consideration of lateral loads and dynamic effects for Centro Hotel, Riyadh, Saudi Arabia, 2014.
- Design of concrete and foundation works, Beans Factory, Med Grain Company, Fayoum, Egypt, 2014.

- Design of steel frames as part of Royal Commission Support Facilities, Saudi Arabia, 2013.
- Design of concrete silos, receiving pits, bucket elevator pits, and concrete tunnels, Abou Dhabai Wheat Mill, 2013.
- Prepare steel structural proposal for Mecca Gates, Saudi Arabia, 2013.
- Review of concrete structural elements at villas, Uptown Cairo, Egypt, 2013.
- Design of steel frames constituting roof at Wellness Center, Qatar, 2013.
- Design of concrete and foundation works, Silos (30,000 ton), El Ahd El Gedeed Mill Company, Qaluib, Egypt, 2013.
- Design of concrete and foundation works, Horus Wheat Mill (New Stores), Assuit, Egypt, 2013.
- Design of steel, concrete and foundation works, Med Grain Company, Fayoum, Egypt, 2012.
- Design of concrete building, Administration building, Kom Oshim Factory, Fayoum, Egypt, 2012.
- Design of holding tank concrete platform (200 ton), Horus Mill, Assuit, Egypt, 2012.
- Design of slab-on-grade and foundation works, Bread production unit, Faculty of Agriculture, Cairo University, Giza, Egypt, 2012.
- Design of Al-Hamd Mosque including concrete and foundation works, Cairo, Egypt, 2011.
- Design of steel space truss roof coverage at Kahremaa Educational city, Qatar, 2011.
- Review of foundation and steel works design, Training Field, Azmeel Contracting Company, 2011.
- Design of steel and concrete system supporting pedestrian and forklift walkway between two existing buildings, Universal Company, 6<sup>th</sup> October City, Egypt, 2011.
- Design of concrete works, new extension for flour mill, Al-Hamd Mills Company, Sadat City, Menoufia, Egypt, 2011.
- Design of concrete units at Basra Sports City including stadiums, apartment building, training field, and fire station, Basra City, Baghdad, 2010.
- Design of Makreezy residential building (13 floors), Nasr City, Egypt, 2009.
- Design of Mohammed Abdo Mosque including concrete and foundation works, Osim, 6<sup>th</sup> October, 2009.
- Design of concrete structure and foundations, Factory, New Salhia, 6<sup>th</sup> October City, Egypt, 2009.

- Design of steel and steel works for Judo Hall, Egyptian Shooting Club, Giza, Egypt, 2008.
- Design of steel and steel and concrete works for Shooting Hall extension, Egyptian Shooting Club, Giza, Egypt, 2008.
- Design of concrete and foundation works, villa, 6<sup>th</sup> October, Egypt, 2007.

### **Industrial Steel Design & Review Works**

- Design of steel works, Cooling Tower Support, El-Obour Refrigerator, Egypt, 2013.
- Review of miscellaneous steel works, Aircraft Maintenance Facility-Building "J", Cairo, Egypt, 2013.
- Design of different steel structures including Krofta steel support, steel truss extension, new crane support, concrete new slab, steel shed, transformation room, underground concrete tanks, and new steel mezzanine, Carta Misr Factory, 6<sup>th</sup> October City, Egypt, 2011.
- Design of Belt conveyor structure, Tripology & Spare Parts Center, Sinai, Egypt, 2011.
- Design of steel frames and foundation works for Limestone loading store, Ain Sokhna Float Glass Plant, Egypt, 2010.
- Design of steel frames, El-Sewedy factory, 6<sup>th</sup> October City, Egypt, 2010.
- Review of workshop drawings, steel factory owned by Nabila Al-Saeed Mahmoud, 6<sup>th</sup> October City, Egypt, 2010.
- Design of steel frames, Sadat City Hangers, Sadat City, Egypt, 2010.
- Review of steel units design submitted by Zamil, Makro Cash & Carry, Qaluobia, Egypt, 2010.
- Design of Sinai Belt Conveyor, Capsco, Cairo University, Egypt, 2010.
- Review of preheater steel structure, Armed forces Cement factory, North Sinai, Egypt, 2009.
- Review of steel frames design and shop drawings, Glass Factory, Smart Glass Company, Fayoum, Egypt, 2009.
- Design of steel water tank support, El Sakhr El Arabi, Sinai International Marble and Granite, Egypt, 2009.
- Design of steel trusses and frames, Abu Zabaal Fertilizer and Chemicals Company, Egypt, 2009.
- Design of pipe support structural steel system, Egypt, 2009.
- Design of steel elements, Al-Ahella Commercial Center, Mecca, Saudi Arabia, 2009.
- Design of steel frames, Future Factory for Furniture, Badr City, Egypt, 2008.

- Design of steel and foundation works, EIM New Service Center, Abu Rawash, Egypt, 2008.
- Design of steel units at Cement Factory (New Valley Factory, Egypt), 2007.
- Design and preparation of shop drawings for steel circular, rectangular silos, and powder tower, wheat storage, (Tanta & Kafr El Sheikh Mills), 2007.
- Design of steel and foundation works, Atlas Electric Factory, 6<sup>th</sup> October, Egypt, 2007.

### **Steel Bridges Design & Review Works**

- Complete assessment and investigation of 75 railway bridges including extensive structural analysis, testing, visual inspection, and fatigue assessment, Egyptian Railways, 2015.
- Review of Azmy Steel Movable Orthotropic Bridge, Port Said, Egypt, 2014.
- Design of steel plate girders supporting residential building parts, Crystal Plaza Project, Egypt, 2013.
- Design of Thickener Bridge, Dermawas Minya Treatment Plant, Minya, Egypt, 2013.
- Design of steel pedestrian bridges and walkways in Shopra, Belbis, and Abotesht water supply plants, 2010 - 2013.
- Design of composite steel bridge, Road Bridge, Egypt, 2010.
- Design of pedestrian steel bridge, Egyptian Radio & Television Broadcast Center, Cairo, Egypt, 2010.
- Design of steel composite plate girder (Al Nasr Canal Bridge), Egypt, 2009.

### **Structural Assessment Reports**

- Structural Narrative Report assessing the possibility of upgrading of concrete and steel buildings at GSK GlaxoSmithkline concerning the seismic behavior considering new loads, chiller support systems, and elevator separated system, Giza, Egypt, 2013.
- Participated in modeling and performing structural analysis for "Berket El Sabe Bridge Assessment Report", Egypt, 2013.
- Participated in preparing "Investigation of Slab Design – Alex East Water Treatment Plant" Report investigating the severe vibrating behavior of the slab upon operation/shutdown of machines, Alexandria, 2013.
- Participated in the preparation of "Structural Assessment Report – Nissan Show Room, Abo Rawash - Cairo" Report investigating the reason behind large deformations of steel members, Egypt, 2012.



- Preparing design retrofitting solution for Steel frames at Delta Steel Factory supporting new furnace hood, Egypt, 2012.
- Participated in preparing "Structural Assessment Report – Steel Link Structure", Stock Exchange Office, Smart Village, Cairo, Egypt, 2010.
- Participated in preparing "Structural Review Report – Airport Terminal Building", Multan, Pakistan, 2010.
- Participated in preparing "Structural Survey and Studies Report", Monastery of St. Catherine, Saint Catherine, Egypt, 2009.

### **Programming and Development**

- Participated in the development of I-SEC program for design of Angelina steel beams. Tasks included extracting design formulas and preparing for coding, 2012.
- Development of program for the design of cold formed steel sections according to American standards, 2013.

### **Publications:**

#### **Conference Papers:**

Maha M. Hassan, M. Hassanien Serror and Sherif A. Mourad, "The response modification factor in seismic design codes for steel MRF", 13<sup>th</sup> International Conference on Structural and Geotechnical Engineering, 27 – 29, Topic: Steel Structures (STL-017), December, 2009, Cairo, Egypt, pp. 801- 810 .

M. Hassanien Serror, Maha M. Hassan and Sherif A. Mourad, "Towards a Boundary between Special and Ordinary Steel Moment Resisting Frames in the Egyptian Code," 14<sup>th</sup> European Conference on Earthquake Engineering, Topic: T3-Paper 197, Ohrid, Republic of Macedonia, 30.08-03.09.2010

Maha M. Hassan, Hazem M. Ramadan, Mohammed Abdel-Mooty, and Sherif A. Mourad, "Experimental Study of CFT Bracing Connections Behavior under Half-Cyclic Loading," 11<sup>th</sup> International Conference on Steel, Space and Composite Structures, 12-14 December 2012, Qingdao, China.

#### **Journal Papers:**

Maha M. Hassan, M. Hassanien Serror and Sherif A. Mourad, "Assessment of Force Reduction Factor for Steel Frames in the Proposed Egyptian Code," *Journal of Engineering and Applied Science*, Faculty of Engineering, Cairo University, Vol. 57, No. 3, pp. 217-231, June 2010.

Maha M. Hassan, Hazem M. Ramadan, Mohammed Abdel-Mooty, and Sherif A. Mourad, "Behavior of concentrically loaded CFT braces connections", *Journal of Advanced Research*, March, 2013.

Maha M. Hassan, Hazem M. Ramadan, Mohammed Abdel-Mooty, and Sherif A. Mourad, "Behavior of gusset plate-T0-CCFT connections with different configurations", *Journal of Steel and Composite Structures*, Vol. 17(5), pp. 735-751, April, 2014.

Maha M. Hassan, Hazem M. Ramadan, Mohammed Abdel-Mooty, and Sherif A. Mourad, "Experimental and Numerical Study of One-Sided Branch Plate-to-Circular Hollow Section Connections", *Journal of Steel and Composite Structures*, Under Review.

### **Fields of Interest:**

Research fields of interest include:

- Steel Structures.
- Composite Steel Concrete Structures
- Earthquake Engineering and Structural Dynamics.
- Experimental Testing of Small and Full-Scale Structures.
- Cold-Formed Steel Structures.
- Seismic Design of Light Frame Structures.

### **Computer Skills:**

Word, Excel, AutoCAD, SAP2000, ETABS, ANSYS APDL, Python and Visual Basic 6.0.

### **Language:**

**Native language:** Arabic

Excellent reading and writing skills in English.

**Toefl (IBT) Score:** 108/120

### **Memberships:**

Member of: El-Ahly, El-Tawfqeya, 6<sup>th</sup> October, Hadaeq El Ahram clubs, Misr Library.

### **Social Activities:**

Participated in the activities held by Resala benevolent association.