Ahmed Hussain Ali Abdelrahman, PhD

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Personal Information

Nationality	Egyptian
Language	English/Arabic
Telephone	+20 100 222 0419 | +20 111 222 0419
E-mail	a_hussain@mans.edu.eg
Address	Room 4111 – Structural Eng. Dep. – Faculty of Engineering – Mansoura University – Mansoura – Dakahliya – Egypt.

Current Positions

- **Lecturer (Assistant Professor),** Str. Eng. Dep., Faculty of Engineering, Mansoura University, Egypt.
- **Vice Director of** International Relations Office (IRO), Mansoura University.
- **Vice Director of** Engineering Studies, Research, and Consultation Center, Mansoura University
- **Coordinator of Visiting Scholar Affairs office,** Cultural Relations, Mansoura University.

Education

B.Sc.	**2009**, Bachelor of Civil Engineering Degree, Excellent with honor's degree, Ranked 2nd over 540 candidates, Civil Engineering Department, Faculty of Engineering, Mansoura University, Egypt.
M.Sc.	**2016**, Master of Science Degree, Structural Engineering Department, Faculty of Engineering, Mansoura University, Egypt. Thesis title - "*Design Aids for Steel Structures According to Egyptian Codes of Practice* ".
PhD	**2020**, Doctor of Philosophy Degree, Faculty of Construction and Environment, The Hong Kong Polytechnic University, Hong Kong. Thesis title - "*Advanced analysis and design of steel structures with single angle members*"
Visiting scholar	**2020**, non-degree visiting Scholar, Johns Hopkins University, USA
Visiting scholar	**2023**, **visiting Scholar** at the Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hong Kong.

Professional Experience

2021 – Current	**Lecturer (Assistant Professor),** Faculty of Engineering, Mansoura University.
2024 – Current	**Vice Director of** International Relations Office (IRO), Mansoura University.
2023 – Current	**Vice Director of** Engineering Studies, Research, and Consultation Center, Mansoura University.
2021 – Current	**Coordinator of Visiting Scholar Affairs office (VSA)**, Mansoura University.
2024 – Current	**Member** of the Permanent Engineering Committee for Monitoring Projects within Mansoura University. Decision by the Vice President of the University, No. 290, dated March 5, 2024
2021 – Current	**Director of Electronic Exams Center,** Faculty of Engineering, Mansoura University.
2023 – 2023 (3 Months)	**Visiting Scholar** at the Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University (July – September 2023).
2021 – 2023	**Director of Research support unit (RSU)**, Faculty of Engineering, Mansoura University.
2022 – 2023	**Acting Director of International Relations Office (IRO),** Mansoura University - (Nov. 2022 – Jan. 2023).
2021 - 2022	**Acting Director of International Relations Office (IRO),** Mansoura University - (Dec. 2021 – March. 2022).
2020 – 2020	**Visiting Scholar** at the Department of Civil and Systems Engineering, Whiting School of Engineering, Johns Hopkins University, USA. (https://www.ce.jhu.edu/bschafer/people/).
2017 – 2020	**Research Assistant,** Department of Civil and Environmental Engineering (CEE), The Hong Kong Polytechnic University.

2016 – 2017	**Assistant Lecturer**, Faculty of Engineering, Mansoura University.
2014 – 2016	**Teaching Assistant** (Demonstrator), Faculty of Engineering, Mansoura University.
2013 – 2014	Compulsory Military Service.
2010 – 2013	**Teaching Assistant** (Demonstrator), Faculty of Engineering, Mansoura University.

Work Experience and Research Interest

- High-rise buildings and large-span steel structures.
- Analysis of Electricity transmission line towers and turbine towers.
- Design and construction of steel and composite high-rise buildings.
- Direct-second order analysis for stability design of complex steel structures.
- Nonlinear finite-element analysis of steel joints and structures.
- Large-scale field testing and laboratory testing

Teaching Experiences

- **Instructed the following courses for undergraduate and postgraduate students at Mansoura University and The Hong Kong Polytechnic University:**
  - Analysis and design of steel structures.
  - Design of composite structures.
  - Theory of structures and solid mechanics.
  - Design of FRP reinforced concrete structures and FRP flexural strengthening.
  - Structural dynamics.
  - Computational analysis of structures.
  - Plastic analysis and design for structures.
  - Technical English for Engineering students.
- **Participated in virtual classes in cooperation between SUNY Polytechnic Institute, USA, and Mansoura University, Egypt, through a virtual exchange program (HIVER).** https://www.facebook.com/iie.mena.programs
- **Participated in and instructed training programs for the faculty leaders' development program (FLDP), demonstrated by Mansoura University Development Center (UDC). The training programs include:**
  - "Public Speaking and Presentation Skills" – "Organizing a Conference" – "Scholarship Opportunities and Studying Abroad" – "Internationalization at Higher Education".
- Participated in the activities of the **IBRO-ARC School** on the Impact of Lifestyle Modification on Neurodegenerative Disorders from Preventive and Therapeutic Perspectives, 1st - 7th November 2022, Faculty of Medicine, Mansoura University. [Public Speaking session].

Publications

- Andy Prabowo, **A.H.A. Abdelrahman***, Yue-Yang Ding, and Yao-Peng Liu (2024). "Stability design of cold-formed high and ultra-high strength steel thin-walled box sections using effective stress-strain model". ***Structures***, vol. --, pp. ---. https://doi.org/10.1016/j.istruc.2024.106189.
- Hadeer Mashaly, **A.H.A Abdelrahman*** , Fikry A. Salem and Nabil S. Mahmoud (2024). "Evaluation of local-plate buckling coefficient for the design of cold-formed steel-lipped channel cross sections: numerical simulations and design recommendations". ***Advanced Steel Construction*** – Vol. 20 No. 1 - 30–3. 10.18057/IJASC.2024.20.1.4
- **A.H.A. Abdelrahman,** M. Ghannam, S. Lotfy, et al. (2023). "Heat Transfer in Ultra-High-Performance Concrete-Filled Double-Skin Tubes Under Fire Conditions". ***Fire Technology.*** https://doi.org/10.1007/s10694-023-01386-8.
- **A.H.A. Abdelrahman,** S. Lotfy, and S.W. Liu, (2022). **"**Generalized Line-Element formulations for geometrically nonlinear analysis of nonsymmetric tapered steel members with warping and Wagner effects", ***Engineering Structures,*** Volume 273, December 2022, 115052.
- **A.H.A. Abdelrahman,** Chen Liang, S.W. Liu, and Ronald D Ziemian. (2022). "Timoshenko line-element for stability analysis of tapered I-section steel members considering warping effects", ***Thin-Walled Structures,*** Volume 175, June 2022, 109198.
- Chen Liang, **A.H.A. Abdelrahman**, S.W. Liu, Ronald D Ziemian, and S.L. Chan. (2021). "Gaussian-Beam-Column Element Formulation for Large-Deflection Analysis of Steel Members with Open-sections Subjected to Torsion", *ASCE* ***Journal of Structural Engineering,*** 10.1061/(ASCE)ST.1943-541X.0003185.
- Wen-Long Gao, **A. H. A. Abdelrahman**, S.W. Liu & Ronald D Ziemian (2021). "Second-order dynamic time-history analysis of beam-columns with nonsymmetrical thin-walled steel sections". ***Thin-Walled Structures***, 160, 107367.

- **A. H. A. Abdelrahman**, Y.P. Liu, S.W. Liu, and S.L. Chan. (2020). "Simulation of thin-walled members with arbitrary-shaped cross-sections for static and dynamic analyses", ***International Journal of Structural Stability and Dynamics*** *(IJSSD)*, Doi:10.1142/S021945542050128X.
- **A.H.A. Abdelrahman**, Y.P. Liu, and S.L. Chan. (2020). "Advanced Joint Slip Model for Single Angle Bolted Connections Considering Various Effects". ***Advances in structural Engineering*** *ASE*, Doi:10.1177/1369433220906226.
- **A.H.A. Abdelrahman**, Z.L. Du, Y.P. Liu, and S.L. Chan. (2019). "Stability design of single angle member using effective stress-strain method", ***Structures***, vol. 20, pp. 298-308. Doi: 10.1016/j.istruc.2019.04.013
- **A. Hussain**, Y.P. Liu, and S.L. Chan. (2018). "Finite Element Modeling and Design of Single Angle Member Under Bi-axial Bending", ***Structures***, vol. 16, pp. 373-389: Elsevier. Doi:10.1016/j.istruc.2018.11.001.
- **Ahmed H. Ali**; Fikry A. Salem, Ahmed El Said Badr and Nabil S. Mahmoud. (2015). "Steel-Concrete Composite Plate Girder Bridge Design Charts for Egyptian Code ASD and LRFD", *Civil Engineering Research Magazine, Al-Azhar University*, ISSN 1110-0990, vol. 38, pp.171-191.

Conferences & Workshops

2023
- **Erasmus+ Week at the Hellenic Mediterranean University, Greece**, International Week that took place from the 14th to the 19th of May **2023.**

2022
- **Cold-Formed Steel Research consortium** held online 17-19 October **2022**, Johns Hopkins University, USA. **Paper**: **A.H.A. Abdelrahman,** S. Lotfy, and S.W. Liu, "Global Buckling Analysis of Tapered Steel Members with Nonsymmetric Sections via an Updated-Lagrangian Line-Element Formulation", *Proceedings of the Cold-Formed Steel Research Consortium Colloquium 17-19 October 2022* *(https://jscholarship.library.jhu.edu/handle/1774.2/67653)*
- **Tenth International Conference on Advances in Steel Structures ICASS** 21-23 August **2022**, Chengdu, China (Online). **Paper**: **A.H.A. Abdelrahman**, Mohamed Ghannam, S. Lotfy, and Mohammad AlHamaydeh. "Finite Element Simulation for Ultra-High-Performance Concrete-Filled Double-Skin Tubes Exposed to Fire", *Proceedings of The Tenth International Conference on Advances in Steel Structures (ICASS'2020) 12-14 May 2022 - Chengdu, China*

2021
- **Erasmus+ Week at the Hellenic Mediterranean University, Greece**, International Week that took place from the 11th to the 15th of October **2021.**

2020
- **Cold-Formed Steel Research consortium** held online 20-21 October 2020, Johns Hopkins University, USA. https://cfsrc.org/colloquium/. **Paper**: **A.H.A. Abdelrahman**, Liang Chen, S.W. Liu, Ronald D. Ziemian and S.L. Chan. "Large Deflection Analysis of Beam-Columns with General Sections Using Gaussian Line-element Method", *CFSRC Colloquium 2020* http://jhir.library.jhu.edu/handle/1774.2/63128.
- **Cold-Formed Steel Research Consortium (CFSRC) summer symposium, 26-27 May 2020 (Online),** Johns Hopkins University, USA.
- **The Indian Structural Steel Conference (ISSC 2020),** 25-27 March 2020 – IIT Hyderabad, India. **Paper**: *Ronald D. Ziemian, S.W. Liu,* ***A.H.A. Abdelrahman*** *and Wen-Long Gao. "Recent developments in advanced line element analysis method for structural members with nonsymmetrical sections". Indian Structural Steel Conference (ISSC 2020), 25-27 March 2020 – IIT Hyderabad, India.*

2019
- **Ninth International Conference on Steel and Aluminum Structures (ICSAS'2019)**, 3-5 July 2019, Bradford, UK. **Paper**: **A.H.A. Abdelrahman**, Y.P Liu and S.L. Chan. "Effective Stress-Strain Relationship for Analysis and Design of Single Angle Members". *(ICSAS'2019)*, 3-5 July 2019, Bradford, UK.

2018
- **Ninth International Conference on Advances in Steel Structures ICASS** 5-7 December 2018, Hong Kong, China. (Work for the organizing committee). **Paper**: **A. Hussain**, Y.P Liu and S.L. Chan. "Design proposals for single angle member under eccentric compression force". *(ICASS'2018)*, 5-7 December 2018, Hong Kong, China.
- **International Conference on Engineering Research and Practice for Steel Construction (ICSC2018**), 5-7 September 2018, Hong Kong, China.

2017
- **One-day seminar on the design of bolted and welded joints to Eurocode 3: Part 1-8**, 16 October 2017, The Hong Kong institute of steel construction, PolyU, Hong Kong, China.
- **One-day technical Seminar on Effective design and construction structural Eurocode 3**, 29 September 2017, Chinese National Engineering Research Centre for Steel Construction, Hong Kong, China.

2015

- **8th International Engineering Conference**, November.2015, Mansoura and Sharm El sheikh, Egypt.
- **2nd International Conference on Bridge Testing, Monitoring & Assessment**, October 2015, Housing & Building National Research Center HBRC-ISHMII, Cairo, Egypt.

Research Supervision

- Between 2021 and 2023, I have been supervising 2 Master students, 1 PhD student and 30 Honors Bachelor degree students in their final year projects.
  The titles of the Master theses are as follows:
  - ✓ Using Direct Strength Method for Evaluating Plate Buckling Coefficient of Cold-Formed Lipped Channel Sections.
  - ✓ Yield surface equation for common non symmetric sections.

Award & Scholarship

- The Hong Kong Polytechnic University Studentship for the Ph.D.
- Certificate of Reviewing Award, Structures Journal, Since 2019.
- Certificate of Reviewing Award, Journal of Constructional Steel Research, Since 2021.
- Editor-in-Chief's Featured Article for the article 'Finite Element Modeling and Design of Single Angle Member Under Bi-axial Bending'. January 2019.

Reviewer for International Journals

- *Reviewer for Journal of Constructional Steel Research – JCSR*
- *Reviewer for Structures*
- *Reviewer for Advances in Structural Engineering – ASE*
- *Reviewer for International Journal of Advanced Steel Constructions – IJASC*

Personal accounts

- https://www.scopus.com/authid/detail.uri?authorId=57305069100
- https://orcid.org/0000-0003-3907-1239
- https://publons.com/researcher/2980380/ahmed-hussain-ali-abdelrahman/
- https://scholar.google.com/citations?authuser=1&user=AVcSA-4AAAAJ
- https://www.researchgate.net/profile/Ahmed_Abdelrahman30
- https://www.linkedin.com/in/a-h-a-abdelrahman/

References

Siu-Lai Chan	*Chair Professor of Computational Structural Engineering. The Hong Kong Polytechnic University.*	siu-lai.chan@polyu.edu.hk
Siwei Liu	*Assistant Professor. The Hong Kong Polytechnic University.*	si-wei.liu@polyu.edu.hk
Ronald D. Ziemian	*Professor of Civil & Environmental Engineering. Bucknell University, USA.*	ziemian@bucknell.edu
Benjamin W. Schafer	*Professor of civil and systems engineering. Johns Hopkins University, USA.*	schafer@jhu.edu