

## CURRICULUM VITAE

### **Sayed Mahmoud** Professor



#### PERSONAL INFORMATION:

**Name:** Sayed Mahmoud Hussein Abdein  
**Date of birth:** January 30, 1972  
**Place of birth:** Cairo, Egypt  
**Nationality:** Egyptian.  
**Cell:** 00966-545495898  
**Address (Egypt):** 5 Mahmoud Hassan St. Seleim Alawal. Zaitoun, Cairo.  
**Address (KSA):** P.O.Box 1982 - Dammam 31441. Dept. of Civil and Construction Eng. College of Eng. Imam Abdulrahman Bin Faisal University.  
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#### EXPERTISE AND RESEARCH INTERESTS

##### General Area:

- Earthquake Engineering and Structural Dynamics
- Analysis and Design of Reinforced Concrete Structures
- Damage Assessment of Structures
- Numerical Modelling
- Soil-Structure Interaction (SSI)
- Blast Loads

##### Area of particular interest:

- Response of Isolated and Non-isolated Structures under Earthquake Motions with and without Soil Flexibility
- Pounding of Isolated and Non-isolated Structures during Earthquakes Considering and Ignoring Soil Structure-Interaction (SSI)
- Damage of buildings due to seismic pounding
- Structural Pounding Models
- Pushover Analysis
- Response of Masonry Infill Buildings
- Response of buildings under blast loadings
- Numerical Modelling of Dynamic Problems

## **SCIENTIFIC TRANSCRIPT**

- **Doctor of Engineering** Graduate School of Science and Technology, Hiroasaki University, Japan, March, 2009
- **M. Sc.** Faculty of Engineering, Civil Engineering Department, Assiut University, Egypt, 2002
- **B. Sc.** Faculty of Engineering at Mataria, Civil Engineering Department, Helwan University, Egypt, 1995.  
Grade: Very Good with Honor Rank.  
Graduation Project Grade: Excellent

## **TITLE OF DOCTORAL THESIS**

"Numerical Methods for Modelling of Pounding-Involved Response of Structures during Earthquakes"

## **CAREER TRANSCRIPT**

- **Professor** September 2021– Present  
Civil and Construction Engineering Department,  
College of Engineering,  
Imam Abdulrahman Bin Faisal University,  
Saudi Arabia.
- **Associate Professor** January 2017– August 2021  
Civil and Construction Engineering Department,  
College of Engineering,  
Imam Abdulrahman Bin Faisal University,  
Saudi Arabia.
- **Assistant Professor** November 2013– Dec. 2016  
Construction Engineering Department,  
College of Engineering,  
Imam Abdulrahman Bin Faisal University,  
Saudi Arabia.
- **Assistant Professor** September 2011 – August 2012  
Civil Engineering Department  
Faculty of Engineering at Rabigh,  
King Abdulaziz University,  
Saudi Arabia.
- **Research Fellow** August 2010 – February 2011

Faculty of Engineering LTH,  
Lund University,  
Sweden

- **Ph.D. Scholar** April 2006 - March 2009  
Graduate School of Science and Technology,  
Hirosaki University, Japan.
- **Resaerch Student** November 2005 - March 2006  
Graduate School of Science and Technology,  
Hirosaki University,  
Japan.
- **Teaching Assistant** March 1996- October 2005.  
Faculty of Engineering at Mataria,  
Helwan University, Egypt

### **INTERESTED IN TEACHING**

#### (I) Undergraduate courses

- Structural Analysis I
- Structural Analysis II
- Advanced Structural Analysis
- Reinforced Concrete I
- Reinforced Concrete II
- Reinforced Concrete Halls
- Reinforced Concrete Tanks
- Foundations Design
- Numerical Methods for Civil Engineering
- Statics
- Differential Equations

#### (II) Graduate courses

- Earthquake Engineering
- Structural Dynamics
- Stiffness Matrix Analysis,
- Seismic Design of RC Structures
- Design Seismic Codes
- Modelling and Simulation

## **Teaching Experience**

### **Before obtaining the PhD degree** **(Helwan University - Egypt)**

- Structural Analysis I
- Structural Analysis II
- Reinforced Concrete I
- Strength & Properties of Materials
- Statics
- Civil Engineering Drawing

### **After obtaining the PhD degree** **(Helwan University- Egypt), (King Abdulaziz University - Saudi Arabia) and** **(Imam Abdulrahman Bin Faisal University - Saudi Arabia)**

#### (i) Graduate courses

- Earthquake Engineering
- Dynamics of Structures
- Finite Element Method

#### (ii) Undergraduate courses

- Structural Analysis I
- Structural Analysis II
- Advanced Structural Analysis
- Special Topics in Structural Analysis
- Reinforced Concrete I
- Reinforced Concrete II
- Foundations Design
- Numerical Methods for Civil Engineering
- Statics
- Dynamic
- Strength of Materials

## **Reviewer**

- Engineering Structures – Elsevier
- Bulletin of Earthquake Engineering - Springer
- Earthquake Engineering and Engineering Vibrations - Springer
- Advances in Structural Engineering – Multi-science
- Journal of Engineering Mechanics – ASCE
- Steel and Composite Structures – Techno Press
- Ain-Shams Engineering Journal - Elsevier
- Journal of Civil Engineering and Construction Technology

- Building and Structures – ice publishing
- Composites Part B: Engineering – Elsevier
- Structures–Elsevier
- International Journal of Civil Engineering- Springer
- The Structural Design of Tall and Special Buildings - Wiley
- Innovative Infrastructure Solutions
- Journal of Engineering Sciences (Assiut University)
- Soil Dynamics and Earthquake Engineering – Sciences Direct.

## **HONORS AND AWARDS**

- I have been awarded the scholarship from Egyptian Ministry of Higher Education to study doctoral degree at Hirosaki University, Japan (November 2005 to March 2009).
- I have been awarded the Certificate of Excellence from The Embassy of Egypt in Japan for the distinguished presentation of research achievements in an easy and comprehensible way during the First Egypt-Japan International Symposium on Science and Technology, EJISST2008, Tokyo, Japan, 2008.
- I have been awarded a postdoctoral research fellowship at Lund University, Sweden, 2010.
- I have been awarded a postdoctoral research fellowship for foreign researchers from Japan Society for the Promotion of Sciences (JSPS) to study at Hokkaido University, Earthquake and Bridge engineering Lab.
- I have been awarded the Certificate for best scientific researches published in an International Journal from the Association of Arab Universities (AARU).
- Travel Support award for Young Researchers to attend the 9<sup>th</sup> International Conference on Urban Earthquake Engineering (9<sup>th</sup> CUEE) for sufficiently outstanding paper 2012.
- Outstanding Teaching Award, First Place, Imam Abdulrahman Bin Faisal University, College of Engineering, Civil and Construction Engineering department. May 2016.
- Outstanding Research Award, third Place, Imam Abdulrahman Bin Faisal University, College of Engineering, Civil and Construction Engineering department. May 2017.
- Outstanding Research Award, second Place, Imam Abdulrahman Bin Faisal University, College of Engineering, Civil and Construction Engineering department. May 2019.

## **RESEARCH GRANTS**

Type of Grant	Grant for distinct scientific study
Role	Principle Investigator
Title of Project	Damage assessment of adjacent buildings under earthquake loads
Awarding Body	Deanship of Scientific Research KAU
Duration	1 year
Status	Achieved

Type of Grant	Grant for distinct scientific study
Role	Principle Investigator
Title of Project	Dynamic response and damage assessment of adjacent buildings to explosive loads with respect to soil-structure interaction
Awarding Body	Deanship of Scientific Research UoD
Duration	1 year
Status	Achieved

Type of Grant	Grant for distinct scientific study
Role	Co-investigator
Title of Project	Effect of Floor Openings on the Capacity of Composite Space Trusses
Awarding Body	Deanship of Scientific Research UoD
Duration	2 years
Status	Achieved

Type of Grant	Grant for distinct scientific study
Role	Co-investigator
Title of Project	Behavior of Window Laminated Glass Plies using New Interlayer Materials
Awarding Body	Deanship of Scientific Research UoD
Duration	1 year
Status	Achieved

Type of Grant	Grant for distinct scientific study
Role	Principle Investigator
Title of Project	Horizontally connected high-rise buildings under dynamic wind and earthquake loads
Awarding Body	Deanship of Scientific Research UoD
Duration	1 year
Status	In progress

Type of Grant	Grant for distinct scientific study
Role	Co-investigator
Title of Project	Behavior of Multi-Cell Columns to Vertical and Lateral Impact Loads
Awarding Body	Deanship of Scientific Research UoD
Duration	1 year
Status	In progress

## **MEMBERSHIPS**

- The Egyptian Syndicate of Engineers.
- The Egyptian Society for Earthquake Engineering.
- Earthquake Engineering Research Institute (EERI) membership

## **PARTICIPATION IN INTERNATIONAL CONFERENCES**

1. "1<sup>st</sup> Saudi Concrete Conference- Durability" held in AlKhubar on 4th May, 2016.
2. International Conference on Civil Engineering and Environmental Engineering, Tokyo, Japan, February, 2-3, 2015.
3. 13<sup>th</sup> World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Sendai, Japan, September 24-27, 2013.
4. 10<sup>th</sup> International Conference on Urban Earthquake Engineering, Tokyo, Japan, March 01-02, 2013.
5. 15<sup>th</sup> World Conference on Earthquake Engineering, Lisbon, Portugal, September 24-28, 2012.
6. 9<sup>th</sup> International Conference on Urban Earthquake Engineering & 4<sup>th</sup> Asia Conference in Earthquake engineering, Tokyo, Japan, March 06-08, 2012.
7. 10<sup>th</sup> International Conference on Fracture and Damage Mechanics, Croatia, 2011
8. 8<sup>th</sup> International Conference on Urban Earthquake Engineering, Tokyo, Japan, March 07-08, 2011.
9. 9<sup>th</sup> International Conference on Fracture and Damage Mechanics, Japan, 2010.
10. 9<sup>th</sup> US National and 10<sup>th</sup> Canadian Conference on Earthquake Engineering: Reaching Beyond Borders, Toronto, July 25-29, 2010.
11. The 17<sup>th</sup> International Congress on Sound & Vibration (ICSV17), Cairo, July 18-22, 2010.

12. 7<sup>th</sup> International Engineering Conference (7<sup>th</sup> IEC), Mansoura/Sharm El-Sheikh, March 23-28, 2010.
13. 8<sup>th</sup> International Conference on Fracture and Damage Mechanics, Malta, 2009
14. 14<sup>th</sup> World Conference on Earthquake Engineering, Beijing, China, 2008.
15. The First Egypt-Japan International Symposium on Science and Technology (EJISST2008), WASEDA University, Tokyo, Japan, 2008
16. The 7<sup>th</sup> International Conference on "Optimization: Techniques and Applications (ICOTA7)", Kobe International Conference Center, Japan, 2007.
17. The International Workshop on "Numerical Optimization Methods and Applications", Hirosaki, Japan, 2007.
18. The annual meeting of "Operations Research Society of Japan, Tohoku Regions", Hirosaki, 2006. World Academy of Science, Engineering and Technology.

### **PARTICIPATION IN WORKSHOPS AND SEMINARS**

- Attended a four-day intensive training program on ***“Developing Core Competencies in Teaching and Learning in Higher Education”*** Organized by the Deanship of Academic Development. December 2015.
- Attended a Workshop on ***“Motivating Students & Learning”*** on Tuesday, November 17<sup>th</sup> 2015.
- Attended a Workshop on ***“Learning Outcomes for Programs and Courses”*** on Tuesday, September 15<sup>th</sup> 2015.
- Attended a Workshop on ***“Avoiding Common Teaching Mistakes in Higher Education”*** on Tuesday, August 18<sup>th</sup> 2015.
- Attended a Workshop on ***“The Well-Structured Classroom”*** on Wednesday, August 19<sup>th</sup> 2015.
- Attended a Workshop on ***“Providing a Constructive Feedback”*** on Tuesday, December 13<sup>th</sup> 2016.
- Attended a Workshop on ***“Checklist of Activities Towards Academic Accreditation”*** on Tuesday, February 7<sup>th</sup> 2017.
- Attended a Workshop on ***“Intellectual Awards”*** on Tuesday, February 14<sup>th</sup> 2017.
- Attended a Workshop on ***“Attract Students with your Power Point”*** on Tuesday, February 21<sup>st</sup> 2017.
- Attended a Workshop on ***“Teaching your Subject in English: Make it Understandable”*** on Tuesday, March 21<sup>st</sup> 2017.

- Attended a Workshop on **“Risk Management Planning in Higher Education”** on Tuesday, March 28<sup>th</sup> 2017.
- Attended a Workshop on **“KPI’s and Benchmarking”** on Tuesday, April 4<sup>th</sup> 2017.
- Attended a Workshop on **“Strategic and Operational Planning to Improve Quality”** on Tuesday, April 11<sup>th</sup> 2017.
- Attended a Workshop on **“21<sup>st</sup> Centaury Skills ”** on Tuesday, April 18<sup>th</sup> 2017.
- Attended a Workshop on **“Differentiated Education”** on Wendsday, May 9<sup>th</sup> 2018.
- Attended a Workshop on **“Traffic Safety Research”** on Tuesday, May 1<sup>st</sup> 2018.
- Attended a Workshop on **“Towards Development of Eecho-Friendly Plastic Bottle Symposium”** on Sunday, April 29<sup>th</sup> 2018.
- Attended a Workshop on **“1<sup>st</sup> Solar and Wind Energy Symposium and Exhibition”** on Monday and Tuesday, April 23<sup>rd</sup> – 24<sup>th</sup> 2018.
- Attended a Workshop on **“Geographic Information System (GIS) Analysis of Spatial World:”** on Saturday, March 24<sup>st</sup> 2018.

## PUBLICATIONS

### A- REFEREED ARTICLES IN INTERNATIONAL JOURNALS.

1. **Mahmoud S**; Soliman A; Genidi M; Abdallah W. Response analysis of hollow core slab bridge with different column heights to near-fault seismic motions. *Journal of Engineering Science*, DOI: [10.21608/jesaun.2025.373003.1471](https://doi.org/10.21608/jesaun.2025.373003.1471)
2. Abd-Elhamed, A., **Mahmoud, S.** Alaa Sherif Haytham Amin. Impact of TMDI on pounding mitigation of insufficiently separated buildings exposed to earthquakes with varying frequencies. 2025, *Journal of Low Frequency Noise, Vibration & Active Control*. DOI: [10.1177/14613484251316946](https://doi.org/10.1177/14613484251316946).
3. Abd-Elhamed, A., **Mahmoud, S.** Alaa Sherif Haytham Amin. Effect of Structural Rigidity on Seismic Response of Multi-Storey Buildings Controlled by TMDI Systems. 2025, *Engineering Research Journal*, 184 (3), 95-110. [10.21608/erj.2025.357070.1196](https://doi.org/10.21608/erj.2025.357070.1196).
4. Abd-Elhamed, A., **Mahmoud, S.** Seismic assessment of cylindrical storage tanks to records with different frequency contents considering fluid–structure – soil/foundation interaction. 2024, *Journal of Low Frequency Noise, Vibration & Active Control*. <https://doi.org/10.1177/14613484241275593>
5. **Mahmoud S.** Alqahtani B M. Influence of seismicity level on the induced response and cost of RC buildings in Saudi Arabia. 2024, *International Review in Civil Engineering*. 15(4). [https://www.praiseworthyprize.org/jsm/index.php?journal=irece&page=article&op=view&path\[\]=28395](https://www.praiseworthyprize.org/jsm/index.php?journal=irece&page=article&op=view&path[]=28395).
6. Abd-Elhamed, A., **Mahmoud, S.** & Alotaibi, K.S. Nonlinear analysis of reinforced concrete buildings with different heights and floor systems. *Sci Rep* **13**, 14949 (2023). <https://doi.org/10.1038/s41598-023-41656-7>
7. **Mahmoud S et al.** Structural Response and Damage Evaluation of a Typical Highrise RC Building in Dubai under an Earthquake with Single and Multiple Peaks. *Journal of Civil Engineering and Management*. 28(2):81-92. <https://doi.org/10.3846/jcem.2022.16957>
8. **Mahmoud S.** Salman A. Cost Estimate and Input Energy of Floor Systems in Low Seismic Regions. 2022, *Computers, Materials & Continua*. 71(2):2150-217. [doi:10.32604/cmc.2022.022357](https://doi.org/10.32604/cmc.2022.022357)
9. **Mahmoud S.** Salman A. Impact of shear wall design on performance and cost of RC buildings in moderate seismic region. 2021, *Earthquakes and Structures*. 21(5):489-503. DOI: <https://doi.org/10.12989/eas.2021.21.5.489>.

10. **Mahmoud S.** In-plane shear-wall configuration effects on the seismic performance of multistory reinforced-concrete buildings. 2021, International Journal of Civil Engineering.19 (10), pp: 1195-1208 <https://doi.org/10.1007/s40999-021-00634-8>.
11. **Mahmoud S.** Alqarni A, Saliba J, Ibrahim A, H, Genidy, M, Diab, H. Influence of floor system on seismic behavior of RC buildings to forward directivity and fling-step in the near-fault region. 2021, Structures. 30, pages 803-817. <https://doi.org/10.1016/j.istruc.2021.01.052>
12. **Mahmoud S., Abdallah W., and Elserhead M.** “Seismic performance of high-rise buildings in selected regions in Saudi Arabia according to different seismic codes”. 2020, *Earthquake Engineering and Engineering Vibration*, 20(1), pages 179-191 <https://doi.org/10.1007/s11803-021-2013-z>
13. **Mahmoud S.** Mitigation of seismic collision between adjacent structures using roof water tanks. *Earthquakes and Structures*. Volume 18, Number 2, February 2020, pages 171-184. DOI: <https://doi.org/10.12989/eas.2020.18.2.171>
14. Abd-Elhamed A. and **Mahmoud S.** Simulation analysis of TMD controlled building subjected to far-and near-fault records considering soil-structure interaction. *Journal of Building Engineering*. Volume 26, November 2019, 100930. <https://doi.org/10.1016/j.jobe.2019.100930>
15. **Mahmoud S.** Blast-load-induced interaction between adjacent multi-story buildings. *Earthquakes and Structures*. 17(1):17-29 – July, 2019. <https://doi.org/10.12989/eas.2019.17.1.017>
16. **Abd-Elhamed A. and Mahmoud S.** Seismic response evaluation of structures on improved liquefiable soil. *European Journal of Environmental and Civil Engineering*. <https://doi.org/10.1080/19648189.2019.1595738>. April, 2019.
17. **Mahmoud S.** Horizontally connected high-rise buildings under earthquake excitation. *Ain-Shams Engineering Journal*. 10(1):227-241 · March 2019. <https://doi.org/10.1016/j.asej.2018.12.007>.
18. Shehata E Abdel Raheem. **Mahmoud S.** Seismic Pounding Effects on Adjacent Buildings in Series with Different Alignment Configurations. *Steel & Composite Structures*. 28(3):289-308 · August 2018. [Doi.10.12989/scs.2018.28.3.289](https://doi.org/10.12989/scs.2018.28.3.289).
19. **Abd-Elhamed A. Yasser Shaaban Mahmoud S.** “Predicting Dynamic Response of Structures under Earthquake Loads Using Logical Analysis of Data “*Buildings*. Vol. 8(4), 2018, pp. 61-73. <https://doi.org/10.3390/buildings8040061>.

20. Abdelhameed A. and Mahmoud S., Linear and Nonlinear Dynamic Analysis of Masonry Infill RC Framed Buildings, *Civil Engineering Journal*. Vol. 3 (10), 2017, pp. 881-896. [DOI: 10.28991/cej-030922](https://doi.org/10.28991/cej-030922)
21. Abd-Elhamed A. Mahmoud S. Comparison between a typical and a simplified model for blast load-induced structural response. *Journal of Physics: Conference Series* 814 (1), 2017- 012007.
22. Mahmoud S. Genidy M. and Tahoon H. and “Time-history analysis of reinforced concrete frame buildings with soft”, *The Arabian Journal for Science and Engineering*, Vol. 42(3): (2017) PP. 1201–1217. <https://doi.org/10.1007/s13369-016-2366-1>
23. Jankowski R. and Mahmoud S., “Linking of adjacent three-storey buildings for mitigation of structural pounding during earthquakes” *Bulletin of Earthquake Engineering*, Vol. 14(11): (2016) PP. 3075–3097. <https://doi.org/10.1007/s10518-016-9946-z>
24. Mahmoud S. Abdallah W. Hanna, N., and Abdelaal A. “Seismic Response Evaluation of Connected Super-tall Structures” *Structures and Buildings*, ISSN 0965-0911. Vol. 169 (11), 2016, pp. 840-852. [10.1680/jstbu.15.00085](https://doi.org/10.1680/jstbu.15.00085)
25. Abdelhameed A. and Mahmoud S., Nonlinear Static Analysis of reinforced Concrete Framed Buildings-A Case Study on Cairo Earthquake, *Journal of Engineering Research*. Vol. 4 (4), 2016, pp. 1-23.
26. El-Shami M., Mahmoud S., and Elabd M., Effect of Floor Openings on the Capacity of Composite Space Trusses, *Journal of King Saud University Engineering Sciences*, (2016), <http://dx.doi.org/10.1016/j.jksues.2016.03.002>
27. Mahmoud S., Dynamic Response of adjacent Buildings under Explosive Loads, *The Arabian Journal for Science and Engineering*, 41(10) (2016) pp 4007-4018. <https://doi.org/10.1007/s13369-016-2086-6>
28. El-Shami M. and Mahmoud S., Structural behavior of window laminated glass plies using new interlayer materials, *Journal of King Saud University Engineering Sciences*, (2015), <http://dx.doi.org/10.1016/j.jksues.2015.11.003>
29. Genidy M. Hanna N., Tahoon H. and Mahmoud S “Seismic response evaluation of moment-resisting-frame multi-storey buildings with soft storey” *International Journal of Civil and Structural Engineering Research*, 3(1)(2015) pp 118-127.
30. Abdelhameed A. and Mahmoud S., Effect of Infill Walls on Response of Multi Storey Reinforced Concrete Structure, *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, 9(5), 510-514, 2015.

31. **Mahmoud S.** and Abdallah W. "Response Analysis of Multi-Storey RC Buildings under Equivalent Static and Dynamic Loads According to Egyptian Code" *International Journal of Civil and Structural Engineering Research*, 2(1)(2014) pp 79-88.
32. **Mahmoud S.** "Blast loads induced response and the associated damage of buildings considering SSI" *Earthquake and Structures*, 7(3)(2014) pp 349-365. [10.12989/eas.2014.7.3.349](https://doi.org/10.12989/eas.2014.7.3.349)
33. Moustafa A. **Mahmoud S.** Damage assessment of adjacent buildings under earthquake loads, *Engineering Structures*, 61(C)(2014) pp 153-165. <https://doi.org/10.1016/j.engstruct.2014.01.004>
34. Ramadan A., Mohamed, M.H., Abdien, S.M., Marzouk, S.Y. El Feky , A. "Analytical investigation and experimental validation of an inverted cup float used for wave energy conversion" *Energy*, 70, 539-546. [10.1016/j.energy.2014.04.047](https://doi.org/10.1016/j.energy.2014.04.047)
35. **Mahmoud S.** Gutub S., Earthquake induced pounding-involved response of base-isolated buildings incorporating soil flexibility, *Advances in Structural Engineering*, 16(12) (2013) pp 71-90. <https://doi.org/10.1260/1369-4332.16.12.2043>
36. **Mahmoud S.**, Abdelhameed A., and Jankowski R. "Earthquake-Induced Pounding between equal height Multi-Storey Buildings Considering Soil-Structure Interaction" *Bulletin of Earthquake Engineering*, 11(4)(2013) pp 1021-1048. DOI:[10.1007/s10518-012-9411-6](https://doi.org/10.1007/s10518-012-9411-6)
37. **Mahmoud S.**, Austrell PE., and Jankowski R. "Simulation of the response of base-isolated buildings under earthquake excitations considering soil-structure interaction" *Earthquake Engineering and Engineering Vibration*, 11(3)(2012) pp 359-374. <https://doi.org/10.1007/s11803-012-0127-z>
38. **Mahmoud S.**, Abdelhameed A., and Jankowski R. "Behaviour of colliding multi-storey buildings under earthquake excitations considering soil-structure interaction" *Applied Mechanics and Materials*, 166-169 (2012) pp 2283-2293.
39. **Mahmoud S.**, Austrell PE., and Jankowski R. "Non-linear behaviour of base-isolated building supported on flexible soil under damaging earthquakes" *Key Engineering Materials*, 488-489 (2011) pp 142-145.
40. Elazab M.S., **Mahmoud S.** and Abdelhameed A. "Seismic Response Evaluation of Buildings Considering Soil Flexibility" *Advanced Materials research*, 243-249(2011) pp 1383-1390.

41. **Mahmoud S.** and Jankowski R. "Modified linear viscoelastic model of earthquake-induced structural pounding" *Iranian Journal of Science and Technology*, 35(C1)(2011) pp 51-62.
42. **Mahmoud S.** and Jankowski R. "Pounding-involved response of isolated and non-isolated buildings under earthquake excitation" *Earthquake and Structures*, 1(3)(2010) pp 3250-3262.
43. **Mahmoud S.** and Jankowski R. "Linear viscoelastic modelling of damage-involved structural pounding during earthquakes" *Key Engineering Materials*, 452-453 (2011) pp 357-360.
44. **Mahmoud S.** and Jankowski R. "Inelastic Damage-Involved Response of Colliding Buildings During Earthquakes" *Key Engineering Materials* 417-418 (2009) pp 513-516
45. **Mahmoud S.** and Jankowski R. "Elastic and Inelastic Multi-Storey Buildings under Earthquake Excitation with the Effect of Pounding" " *Journal of Applied Sciences* 9(2009) pp 3250-3262
46. **Mahmoud S. Chen X.** and Jankowski R. "Structural Pounding Models with Hertz Spring and Nonlinear Damper" *Journal of Applied Sciences* 8(2008) pp 1850-1858
47. **Mahmoud S.** and Chen X. "A Verified Inexact Implicit Runge-Kutta Method for Nonsmooth ODEs" *Numerical Algorithms* 47(2008) pp 275-290
48. Chen X. and **Mahmoud S.** "Implicit Runge-Kutta Methods for Lipschitz Continuous Ordinary Differential Equations" *SIAM Journal on Numerical Analysis* 46(2008) pp 1266-1280

## **B - ARTICLES IN INTERNATIONAL CONFERENCES**

1. **Mahmoud S. and El-Shami M.**, Dynamic Response of Insufficiently Separated Buildings under Explosive Load, *International Conference on Civil Engineering and Environmental Engineering., Tokyo, Japan, February, 2-3, 2015, Paper No.576.*
2. **Abdallah W. Hanna N. Mahmoud S. and Taha M.**, Seismic Behavior of Multi-Storey RC Buildings Having different Slab Systems, *International Conference on Civil Engineering and Environmental Engineering., Tokyo, Japan, February, 2-3, 2015, Paper No.595.*

3. **Mahmoud S.**, Response of Base-isolated Buildings Incorporating Soil Flexibility and Pounding with Retaining Walls, *13th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Sendai, Japan, September, 24-27, 2013.*
4. **Abdelhameed A. and Mahmoud S.**, Effect of Soil-Flexibility on Nonlinear Response of High-rise Buildings during Collisions under the El-Centro Earthquake, *10th International Conference on Urban Earthquake Engineering, Tokyo, Japan, March 01-02, 2013*
5. **Moustafa A. Mahmoud S.**, Damage assessment of adjacent buildings with fixed bases under earthquake loads, , *15th World Conf. on Earthquake Engineering, Lisbon, Portugal, September 24-28, 2012*
6. **Mahmoud S, Abdelhameed A. and Elazab M.S.**, Seismic Response Evaluation of Colliding Buildings Considering Soil Flexibility, *9th International Conference on Urban Earthquake Engineering & 4th Asia Conference on Earthquake Engineering, Tokyo, Japan, March 06-08, 2012*
7. **Mahmoud S and Austrell PE.**, Response Behaviour of Isolated Buildings to Earthquake Excitations Considering Soil Flexibility, *8th International Conference on Urban Earthquake Engineering, Tokyo, Japan, March 07-08, 2011.*
8. **Mahmoud S and Jankowski R.**, Seismic response evaluation for isolated and non-isolated buildings considering pounding, *9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, July 25-29, 2010. Paper No. 285*
9. **Mahmoud S and Jankowski R.**, Impact models with Hertz spring and nonlinear damper for simulation of pounding-involved structural vibrations during earthquakes, *The 17th International Congress on Sound & Vibration (ICSV17), Cairo, July 18-22, 2010*
10. **Mahmoud S.**, "Modified linear viscoelastic model for elimination of the tension force in the linear viscoelastic, *14th World Conf. on Earthquake Engineering, Beijing, October 12-17, 2008*

11. **Mahmoud S.**, “Nonlinear Models for Earthquake Structural Pounding”, *The workshop on "Optimization: Modeling and Algorithms, Tokyo 23 March 2007.*
12. **X. Chen and Mahmoud S.** “Convergence of the Runge-Kutta method for nonlinear models of structural pounding”, *The 2007 Spring Meeting of Mathematical Society of Japan at Saitama University, 27 March - 30 March, 2007.*

## **C – PUBLISHED BOOKS**

**Jankowski R and Sayed Mahmoud** “Earthquake-Induced Structural Pounding” – Springer Publisher - 2015

**Sayed Mahmoud** “Reinforced Concrete Design: *Fundamentals and Practical Examples*”- Cambridge Scholars Publishing- to appear October 2023. ISBN (10): 1-5275-3216-X & ISBN (13): 978-1-5275-3216-8

## **D- SUPERVISION OF HIGHER DEGREE RESEARCH STUDENTS**

### **PhD STUDENTS**

(1) Ahmed Soliman (Awarded the Degree July 2025)

- Thesis title:

**SEISMIC RESPONSE EVALUATION OF RC BRIDGES TO NEAR-FAULT GROUND MOTIONS**

(2) Haytham Essam Amin (Awarded the Degree March 2025)

- Thesis title:

**Pounding mitigation of buildings controlled by tuned mass damper inerter under seismic excitations with different frequencies.**

**(3) Ayman Abdelhamed (Awarded the Degree June 2013)**

- **Thesis title:**

**Numerical Simulation of the Seismic Response of Colliding Buildings Considering Soil-Structure Interaction.**

## **MASTER STUDENTS**

**(1) Mohamed Taha (Awarded the Degree September 2019)**

- **Thesis title:**

**Comparative study on the seismic response behavior of R.C buildings with different slab systems According to Egyptian Building Code.**

**(2) Mohamed Alsarhead (Awarded the Degree March 2019)**

- **Thesis title:**

**Performance of high-rise buildings according to SBC and other seismic design codes.**

**(3) Amr AbdelAal (Awarded the Degree October 2017)**

- **Thesis title:**

**Structural Behavior of Skybridges Connecting High Rise Buildings**

**(4) Hisham Taha (Awarded the Degree October 2016)**

- **Thesis title:**

**Seismic response evaluation of moment-resisting-frame multi-storey buildings with soft storeys.**

## **E- COMPUTAIONS AND PROGRAMMING SKILLS**

- **Structural Software Packages: SAP2000.**
- **Structural Software Packages: ETABS.**
- **Structural Software Packages: SAFE.**
- **Mathematical Packages: MATLAB.**
- **Document Preparation Packages: Ms-Word, LaTeX.**
- **Drawing Packages: AutoCAD.**

### **GOOGLE SCHOLAR**

<https://scholar.google.com/citations?user=d-HgyyAAAAAJ&hl=en>

### **RESEARCH GATE**

<https://www.researchgate.net/profile/Sayed-Mahmoud>

### **LinkedIn**

<linkedin.com/in/sayed-mahmoud-5585b112>

GeoPlanet: Earth and Planetary Sciences

Robert Jankowski  
Sayed Mahmoud

# Earthquake- Induced Structural Pounding

 Springer

This book provides the reader with the fundamentals of analysis and design of reinforced concrete (RC) elements, together with elements' reinforcement details, in a simple way. The book provides a valuable design guide for undergraduate civil and architectural engineering students. It can also act as a resource for recent graduates and practicing engineers. Throughout the book, the presented design procedures for structural elements provide a roadmap which enables students and practicing engineers to create their own programming codes to increase the productivity of their design practice.

**Sayed Mahmoud** is a faculty member of the College of Engineering at Imam Abdulrahman bin Faisal University, Saudi Arabia, where he has served as an assistant and associate professor, and is currently a full professor of structural and earthquake engineering. He completed his undergraduate education at Helwan University, Egypt, his master's degree at Assiut University, Egypt, and his PhD at Hirotsuki University, Japan. He received two postdoctoral fellowships: one from Sweden at Lund University's Structural Mechanics Department, and the second was from the Japan Society for the Promotion of Science to study at Hokkaido University's Lab of Bridge and Earthquake Engineering. He is responsible for teaching several structural engineering courses, including reinforced concrete design, for both undergraduate and graduate students.

978-1-5275-3216-8  
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Reinforced Concrete Design

Sayed Mahmoud



# REINFORCED CONCRETE DESIGN

Fundamentals and Practical Examples

Sayed Mahmoud





# Outstanding Teaching Award

FIRST PLACE  
is presented to

**Dr. Syed Mahmoud Abdin**

In recognition of your teaching accomplishments over the last year, the college of engineering acknowledges your contribution to teaching and learning at the University of Dammam.

May 30, 2016

Dr. Ali M. Al-Qahtani  
*Vice Dean for Academic Affairs*



Dr. Othman Subhi D. Alshamrani  
*Dean*





جامعة الإمام عبدالرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

تتقدم أسرة كلية الهندسة بالتهنئة

**للدكتور / سيد محمود**

لحصوله على المركز الثاني في النشر العلمي على مستوى كلية  
الهندسة للعام الدراسي ١٤٣٩/١٤٤٠هـ

بوركت جهودكم،،

**عميد كلية الهندسة**

د. علي بن محمد القرني



سُلاف الهندسة  
2019 - 2018  
حصاد عبر الحدود الهندسية

独立行政法人 日本學術振興會

JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

8, Ichibancho, Chiyoda-ku, Tokyo 102-8472

(Award Letter)

JSPS/FF1/246  
August 12, 2011  
ID No.P 11366

Dr. Sayed Mahmoud Hussein ABDEIN

Masaken Elhelmya, P.O. Box 11718, Faculty of Engineering at Mataria,  
Helwan University, Cairo, Egypt.  
EGYPT

RE: FY2011 JSPS Postdoctoral Fellowship for Foreign Researchers

Dear Dr. ABDEIN:

I am pleased to inform you that the Japan Society for the Promotion of Science (JSPS) has decided to approve the application of Professor Toshiro HAYASHIKAWA, Hokkaido University, and to award you a fellowship under the "FY2011 JSPS Postdoctoral Fellowship for Foreign Researchers" to conduct research in Japan under the leadership of your host researcher for a period of 24 consecutive months. Regarding the terms of the fellowship, please see the attached "Certificate of Financial Support."

For this Fellowship award to be valid, you must start your fellowship in Japan within the period of September 1, 2011 through November 30, 2011.

Please note that this award is valid only if you obtain your Ph.D. degree before your Fellowship commences. Following the guidance on the page E9 in the enclosed booklet "JSPS Program Guidelines", please send us a copy of your doctorate certificate by the mentioned deadline. Otherwise, your Fellowship will become invalid.

After reading the "Guidelines," if you agree to all of the conditions stipulated therein and decide to accept the Fellowship, please sign the "Notice of Agreement" and "Notice of Acceptance" [FormA-1, A-2] enclosed within the "Guidelines" and send it to JSPS via your host researcher.

In future correspondence with JSPS, please use your above-indicated ID number.

Sincerely yours,



Prof. Motoyuki Ono  
President

Enclosures: 1. Certificate of Financial Support  
2. Program Guidelines (FY2011)  
3. Air Ticket Application Information  
4. A Guide to the Insurance Policy  
5. An Extract from the JSPS Law

cc: Professor Toshiro HAYASHIKAWA, Hokkaido University

1<sup>st</sup> April 2010

### ***Letter of Nomination***

Dear Sayed HUSSEIN ABDEIN,

We are pleased to confirm your acceptance within the FFEEBB mobility scheme. Congratulations on your successful application to study at the **SE-LUNDS UNIVERSITET** provided that you fulfil all admission requirements at your host university! Please contact the official FFEEBB contact person at your home and host university in order to get informed about the admission requirements and the deadline upon which you need to hand in any additionally required documents (if necessary)!

Programme: **6.4 - Civil Engineering**  
Home University: **EG-HELWAN UNIVERSITY**  
Host University: **SE-LUNDS UNIVERSITET**  
Target Group: **TG1**  
Type of Mobility: **Post-Doctorate**  
Maximum duration of Mobility: **6 months**

\*The actual duration of scholarship payments always entirely depends on the academic calendar at your host university.

#### **FFEEBB Scholarships**

- ***Subsistence allowance***  
Your Host university will provide you with a subsistence allowance of 1.800€ per month for the duration of the mobility.
- ***Insurance (accident, travel, health)***  
  
You will be provided with full insurance coverage (accident, travel, health) for the duration of your mobility by the FFEEBB project coordinator. More information will be provided shortly.
- ***Travel cost***  
  
Your travel expenses will also be covered by the scholarship, up to a maximum of 1.000€. The EU university will coordinate this with you. As mentioned above, travel insurance will be included in the coverage provided by the project coordinator.
- ***Tuition fees***

You will continue paying your registration fees in your home university (if applicable), but the host university must apply a fee waiver policy (no registration/tuition fees) if mobility is inferior to 10 months.

#### **Academic Requirements**

It is your responsibility to ensure that you achieve the goals set out in your training / research / teaching plan.

Possible changes to the original proposed agreement must be signed by the official FFEEBB contact person and coordinators at the faculty/department level at both the Home and Host university. At the end of your mobility a report and your transcript of records (if applicable), as well as all original invoices, have to be submitted in order to ensure that all requirements have been met. The report must be signed by the official FFEEBB contact person at the Host university. The transfer of the final instalment of the scholarship is made contingent on this.

#### **Obtaining your Student Visa**

Please contact the official FFEEBB contact person at your Home and Host university in order to receive more information and guidance on the visa procedure and to request your visa supporting letter.

#### **Making your Travel Arrangements**

Please contact the official FFEEBB contact person in your Home and Host university in order to organise your travel.

#### **Insurance**

You will be provided with full insurance coverage (accident, travel, health) for the duration of your mobility by the FFEEBB project coordinator. More information will be provided shortly.

#### **Welcome Guide**

A welcome Guide, as well as further information on your Host university will be provided for you on request from the Host university.

**PLEASE NOTE:** This offer of scholarship is conditional upon the following actions:

- Acceptance of the offer of scholarship to be received by UWIC by 19<sup>th</sup> April 2010.
- Development of a suitable training/research/teaching plan between the scholar, the Home and Host University.
- Acceptance of the Guidelines of Scholarship (sent to scholars following their formal acceptance of scholarship).

Thank you for choosing the FFEEB scholarship scheme for academic exchange between EU and Egypt!

FFEEBB  
*Erasmus Mundus  
External Cooperation*



Yours sincerely,

Dr. Mohamed Loutfi  
On behalf of the FFEEBB Project Selection Committee

[www.ffeebb.com](http://www.ffeebb.com)



جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

شهادة شكر وتقدير  
Certificate of Appreciation

يسر أسرة كلية الهندسة أن تتقدم بخالص الشكر والتقدير

للدكتور/ سيد محمود حسين عابدين

عضو اللجنة الفنية للاعتماد الأكاديمي

على جهوده المميّزة في حصول برامج الكلية على الاعتماد

الأكاديمي الهندسي الدولي (ABET)

١٢ نوفمبر ٢٠١٨

عميد كلية الهندسة

د. علي بن محمد القرني



Engineering  
Accreditation  
Commission



اتحاد الجامعات العربية

# شهادة تقديرية



الى / د. **سعيد محمود**

نظرا لمساهمتم القيمة من خلال مشاركتكم في مسابقة أفضل بحث علمي للعام ٢٠١٣ التي اعلمتها جمعية كليات ومهاهد الهندسة اعضاء اتحاد الجامعات العربية وفوزكم بالجائزة الشانته لايسعنا الا ان نقدم شكرنا وتقديرنا متمنين لكم دوام الموفقية.

أ.د. **قاسم محمد دوس**

الامين العام

# **Professional experience**

## **Residential RC structures**

- Experience in analysis and design of RC structures with different floor systems, in terms of flat-plate, flat-slab, ribbed-slab, solid-slab, and paneled-beam systems.

## **Areas of large-spans**

- Experience in covering areas having large spans with suitable RC systems, particularly RC frames.

## **RC high-rise buildings**

- Experience in analysis and design of RC high-rise buildings in different seismic regions
- Experience in analysis and design of different lateral force-resisting systems particularly, ordinary and special RC shear walls.

## **Modelling and Analysis**

- Experience in modelling and analysis of RC structures using ETABS and SAFE Structural Packages.
- Experience in checking building models designed for seismic loads following different building codes for loads.
- Experience in remodeling existing structures, and review designed plans for adequacy.

## **Design calculations**

- Performing necessary calculations to ensure structural stability.
- Checking building models to validate design concepts and data.
- Address challenges related to structural design

## **Design Codes**

- Review and understand different building codes and standards.

## **Environmental Structures**

- Experience in analysis and design of Concrete Liquid Containing Structures following (ACI 350-20)

## **Foundations**

- Experience in analysis and design of shallow foundations
- Experience in analysis and design of deep foundations particularly piles and cap-piles
- Experience in analysis and design of retaining structures

## **Samples of designed RC Residential buildings:**

- Analysis and design of a RC residential Building (B+G+10), Fayoum city, Fayoum, Egypt.
- Analysis and design of a RC Residential building (B+G+11), at Kerdasa, Giza. Egypt
- Design and analysis of a residential RC Building (B+G+9), Shark-Insurance Compound. Egypt
- Design and analysis of a residential RC Building (B+G+3), New Cairo City, Tagamu Khames, Arbila, Piece 207. Egypt.
- Design and analysis of a residential RC Building (B+G+3), New Cairo City, Tagamu Khames, Lotus, Piece 322. Egypt.
- Analysis and design of RC Residential Villa at New Cairo City, Nargis district, Piece 4, No. 234. Egypt

## **Samples of designed areas of large spans:**

- Complete Structural analysis and full design of a factory of one-bay and two-bay RC-frame systems in Bourg-Alarab, Alexandria.

- Complete Structural analysis and full design of a RC factory in Shorouk Industrial City, Qalyoubia, Egypt
- Complete Structural analysis and full design of a RC factory for El-Badr Company for modern Industries, Oubour City, Egypt
- Analysis and Design of Service & Maintenance Center for Petroleum Services, Triple L Company.

### **Samples of designed water tanks:**

- Analysis and design of under-ground tank, Owinat East. Egypt
- Analysis and Design of Elevated tanks for AboKabier Transformer Station, AboKabier, Sharqia.

### **Samples of revised RC structures:**

- Structural analysis and revision for Mixed use residential tower, Dubai, UAE (a twenty-two story tower with one-podium, basements, and a ground floor. The building is rectangular in plan (30mx65m)).
- Structural analysis, revision, and design of pile foundations for Residential and Commercial Building (2B+G+7) - Al Gharafa – Qatar.
- Revision of a Residential Villa of Mr. Abdulwahab Abdullah, Alandalus, Khobar, KSA.
- Revision of a Residential Villa of Dr. Abbas Eladawy, New Cairo City, Tagamu Khames, Bait-Alwaytan, Region H, piece no. 43. Egypt.
- Revision Palm Park Mall, Plot No. 2-toursit zone, the commercial administrative building in the service area, New cairo City, Egypt.
- Revision of Elwahed El Ahad Mosque in Dar Misr, Phase tow, Andalusia, New Cairo, Egypt.
- Revision of underground tank with 2400 m3 capacity for Mostafa Ismael Factory in Cairo Governorate.

