Tharwat Ali Sakr, Ph.D., PMP. Resume

PERSONAL

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LinkedIn	☐	https://www.linkedin.com/in/tharwat-sakr-ph-d-pmp-60353a123/
Nationality:	☐	Egyptian
Date of Birth	☐	August, 15, 1962
Current Position:	☐	Professor, Structural Engineering, Zagazig University
	☐	Structural Design Consultant, Talaat Mostafa Group (TMG)

EDUCATION

1985	☐	B.Sc. Civil Engineering in Construction (Civil), Zagazig University
1991	☐	M. Sc. in Structural Design, Zagazig University, Thesis "Lateral Analysis of Non-Collinear Coupled Shear Walls"
1997	☐	Ph. D. in Structural Engineering, Zagazig University 1997, Thesis "Knowledge Based System for Seismic Risk Assessment of Structures"
2018	☐	Project Management Professional (PMP), training,

PROFESSIONAL AFFILIATION

1985: Now	☐	Member of The Egyptian Engineers Syndicate
2006: Now	☐	UAE, Society of Engineers Member
2007: Now	☐	Approved by DUBAI Municipality as structural engineer, Unlimited Height.
2008: Now	☐	Accredited by JAFZA (TARAKHEES) as Structural Engineer
2013: 2017	☐	Saudi Council of Engineers Member
2015: Now	☐	Consultant, Design of R. C. Structures (Egyptian Engineers Syndicate)
2018: 2019	☐	Member, Project Management Institute (PMI)
2019: 2022	☐	Project Management Professional, PMP (2019), PMI

Professional Skills

General	☐	Problem Solving, creative, and Critical thinking
	☐	Communication, negotiation, and active listening
	☐	Professional report writing, presentation skills
Information Tech.	☐	Using general Purpose Applications (Word, Excel, PowerPoint, Photoshop, etc.)
	☐	Programming and Developing Applications using MS Access, Visual Basic, C#/ .net, Fortran and Python
	☐	Database administration (MSSQL), design of database systems
	☐	Wide background about Artificial Intelligence Tools and Applications (Especially Genetic Algorithm).
Structural Eng.	☐	Using the Structural Analysis and Drafting Programs SAP2000 – ETABS – SAFE – RAM – AutoCAD - Revit
	☐	Structural design including full modeling, design, and detailing according to the UBC-IBC-ACI-ASCE-B.S.-ECP-SBC codes of practice,

	Wide background and aware about innovative engineering fields (3D printing, demolition by explosion, Structural health monitoring, … ,etc.)
Project Management	Time, and cost management
	Value Engineering and fast track construction.
	Autodesk ACC, background, and implementation
	RFP, RFI, and RFQ evaluation and management
Education	Active teaching and E-learning
	High supervision, coaching skills
	Conflict resolution, and active leadership

Main Employment Record

1985:	Now	Demonstrator: Professor, Dept of Structural Engineering, Zagazig University, Egypt.
2019:	Now	Structural Design Consultant, and management member, Talaat Mostafa Group (TMG), Egypt.
2013:	2017	Head of Str. Design Dept., AJDAN Real Estate Development., KSA.
2006:	2009	Senior Structural Eng., Bel-Yohah Eng. Consultants, Dubai.
2006:	2006	Coordinator, Modern Executive Systems Contracting, Dubai,
2005:	2005	Head of Structure dept., DIMENSIONS Eng. Consultants, Dubai.
1997:	2005	TMG Technical support for Structural Design of "AL REHAB" City, Egypt.
1994:	1996	Lecturer and construction management system developer, Egyptian National Company for Construction and Development.
1988:	1994	Lecturer, Computer using and programming courses (dBase, dBase programming, Basic, Pascal, C, AutoCAD, SAP2000, STAAD III), private centers

Professional Experience Record

Distinguished Professor of Structural Engineering and Senior Structural Design Consultant with over 35 years of experience leading major residential, commercial, and high-rise developments across the Middle East (Egypt, UAE, KSA). Recognized expert in seismic risk assessment, value engineering (VE), structural rehabilitation, and complex foundation design. Successfully managed and audited multi-million dollar structural projects, ensuring compliance with international codes (ACI, UBC, IBC, ASCE, ECP, SBC). Published researcher in advanced seismic retrofitting and structural optimization. Following is a brief summary of projects categorized by my role and contribution

Structural modeling, design, and revision, design management, and authority discussion

- **G + 3 (Ibdaa-2) Industrial buildings group** at 10th Ramadan City, Land 1/10 (12 industrial buildings + management building) for Ibdaa for real estate and industrial development**, 2026**
- **G + 3 (Ibdaa-1) Industrial buildings group** at 10th Ramadan City, Land 12 (12 industrial buildings) for Ibdaa for real estate and industrial development,2025
- **B + G+2 SIS, BCCIS international schools** (20,000 m2 land area), Owest, Sixth October City (Cairo for Investment & Real Estate Development. CIRA), Egypt, 2021.
- **3B + G+3 Capital Care**, Eye of the World, New Capital, Egypt, 2021.
- **UG-Tank + G +2P + 8 Typ. + Roof + Pool + T. Roof,** MERAAS ESTATES Building, Dubai, 2018.
- **Al Emarah 60-Story building**, Ajman, UAE, 2011.
- **2B+G+20 stories 500 Million AED**. Hotel and office Buildings for Dubai Customs at Port Rashed, Dubai., 2009

- **B+G+16+R, 200 Million AED**. ATLANTIS Staff Accommodation Building at Jumairah Village for ISTITHMAR., 2008
- **B+G+16+R, 150 Million AED**. ATLANTIS Management Accommodation Building at Jumairah Village for ISTITHMAR., 2007
- **2B+G+1Mezz+51+4Mech Sheikh Zayed Twin Tower**, Dubai, 2005
- **The Palm Resort** at Al Fujairah, 2005
- **4B+G+34+1Mech+Roof T1 Tower**, Jumairah Lake Towers, Dubai, 2005

Revision and Evaluation

- **Redesign of floors and foundation,** MADINATY and NOOR cities, 2021-2024
- **AJDAN walk (Luxury B+ G+ one retail village),** AL-Khobar, KSA, 2016. (Mott-McDonalds, Bahrain.)
- **AJDAN Rise (B + G + 3P + 6 Mid-Rise + 27 Typical)** AL-Khobar, KSA, 2015**. (**NORR international, Dubai)
- **Revision and evaluation of Saudi Arabia RC Bridges** 2011-2012 (Badr Office - Al-Ayuni Company)

VE, redesing of structural elements

- **Commercial center at Dubai, 2025** (Belyohah Engineering Consultant)
- **Military Housing Project,** Najran, KSA. 2012
- **Nasamat** AL**-Ryadh Project,** Kingdom of Saudi Arabia, 2010
- **AL REHAB City building redesign,** New Cairo, Egypt, 1997-2005

Repair, strengthening, and rehabilitation

- **Rehabilitation of special cases in MADINATY** (villas and buildings with crack problems), 2019-2026
- **12 story Nile Hotel Rehabilitation,** member of committee, TMG, 2004-2005

Management, developments, follow up, and coordination

- **B+G+24 Stories, Al-Rashdan Tower,** Dubai Marina, 2006
- **Solving design problems related to waterproofing, and drainage of huge basements**, 2022-2025
- **Development of Information system for the control of construction subcontractor payment and progress and the estimation of client invoice ,** TMG, EL-Rehab Project, 1998-2003
- **Development of computer system called Site Management Information System "SMIS"** for Construction site management and cost control., National Company for Construction and Development, 1994-1996

List of Publications

1. Bakr, M., A. *Sakr, T.,* & Selim, M., Optimization of Multiple Viscoelastic-Connected Tuned Mass Dampers Using Genetic Algorithm, Civil Engineering Journal, 12(6), 2026, 2554–2577. https://doi.org/10.28991/CEJ-2026-012-06-023
2. *Tharwat A. Sakr* , Hanaa E. Abd-EL-Mottaleb , Shrouk S. Kamel, Performance-Based Seismic Design and Retrofitting via Drift and Strain Criteria, HBRC JOURNAL 2026;22:347–359, DOI: https://doi.org/10.65800/2090-9934.1026
3. *Tharwat A. Sakr* , Hanaa E. Abd-EL-Mottaleb , Shrouk S. Kamel, Retrofitting of existing buildings by using viscous dampers: Performance-based approach, Results in Engineering, Volume 29, March 2026, 108442, DOI: https://doi.org/10.1016/j.rineng.2025.108442
4. Azza M. Al-Ashmawy, Osman Shallan, *Tharwat A. Sakr* and Hanaa E. Abd-EL-Mottaleb, Numerical investigations of reinforcement concrete beams with different types of FRP bars, Structural Engineering and Mechanics, Volume 88, Number 6 (2023), 599-608,
   DOI: https://doi.org/10.12989/sem.2023.88.6.599
5. Shallan, O., *Sakr, T.*, Khater, M., Ismail, A., Proposed Design Criteria for column strengthened using steel angles and strips, Frattura ed Integrità Strutturale, 60(2022) 1-12.
6. Osman Shallan, *Thrwat Sakr*, Mahmoud Khater and Ahmed Ismail, Modeling of slender RC columns strengthened by steel angles and strips, Computers and Concrete, Vol. 28, No. 4 (2021) 361-367 DOI: https://doi.org/10.12989/cac.2021.28.4.361
7. H. E. Abd-El- Mottaleb, *T. A. Sakr*, Multiple Connected Pendulum TMD (MCPTMD) For Vibration Control of Structures, INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VO`LUME 10, ISSUE 05, MAY 2021, URL: https://www.ijstr.org/final-print/may2021/Multiple-Connected-Pendulum-Tmd-mcptmd-For-Vibration-Control-Of-Structures.pdf
8. Mohamed Shallan; Hanaa Abd El-Mottaleb; *Tharwat Sakr;* Ragab Shaker4, Response of Post-Tensioned Two Way Flat Slabs to Vibration, Egyptian Journal for Engineering Sciences and Technology, Vol 33, 2021, URL: https://eijest.journals.ekb.eg/
9. M.Shallan, *T. Sakr*, R. Shaker, H. Abd-El- Mottaleb, Effect Of Openings On Post-Tensioned Flat Slab, INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME 9, ISSUE 11, NOVEMBER, ISSN 2277 -8616, 2020, URL: https://www.ijstr.org/final-print/nov2020/Effect-Of-Openings-On-Post-tensioned-Flat-Slab.pdf
10. Atef Eraky , *Tharwat A. Sakr* , and Riham Khalifa, Mitigation of progressive collapse of buildings resulting from accidental explosions, International Journal of Scientific & Engineering Research, Volume 8, Issue 3, March-2017 976 ISSN 2229- 5518,
    https://www.ijser.org/researchpaper/Mitigation-of-progressive-collapse-of-buildings-resulting-from-accidental-explosions.pdf
11. *Tharwat Sakr*, Atef Eraky, Jala Esmat , Progressive Collapse Analysis of Multi-Story Space Frames, International Journal of Scientific & Engineering Research, Volume 8, Issue 2, Feb. 2017 ISSN 2229-5518, https://www.ijser.org/researchpaper/Progressive-Collapse-Analysis-of-Multi-Story-Space-Frames.pdf
12. Osman Shallan, Atef Eraky, *Tharwat Sakr*, Mohamed Khozam. Structural Damage Detection using Genetic Algorithm by Static Measurements. *International Journal of Trend in Research and Development (IJTRD), ISSN: 2394-9333, Volume-4 | Issue-1, February 2017,*
    http://www.ijtrd.com/papers/IJTRD6601.pdf
13. *Tharwat .A. Sakr.* DEVELOPMENTS IN SUPER TALL BUILDINGS. *Review Article, 2015.*
14. *Tharwat .A. Sakr.* Progressive Collapse Analysis of Reinforced Concrete Buildings Including Soil-Structure-Interaction. *International Journal of Civil and Structural Engineering Research ISSN 2348-7607, 3(2), May-2015.*

15 □ *Tharwat .A. Sakr.* Vibration Control of Buildings by Using Partial Floor Loads as Multiple Tuned Mass Dampers. *HBRC Journal (2015),*

https://www.sciencedirect.com/science/article/pii/S1687404815000334

16 □ Gouda A. Mohamed, *T. A. Sakr*, Ghada N. Mohamed. Post Tensioned Floors As An Economic Alternative In The Egyptian Market. *The Egyptian International Journal of Engineering Sciences and Technology - Vol.17 - No.1, January 2014.*

17 □ Osman Shallan, Atef Eraky, *Tharwat Sakr*, Shaimaa Emad. Response of Building Structures to Blast Effects. *Intl. J. of Engg. and Innovative Technology (IJEIT), Volume 4, Issue 2, Aug. 2014*

18 □ *T.A. Sakr* and Hanaa E. Abd-El- Mottaleb. Parameters Affecting The Elasto-Plastic Behavior Of Outrigger Braced Walls To Earthquakes. *WASET I.J. of Civil, Structural, Construction and Architectural Engineering Vol:8, No:7, ICEGSE 2014, International Conference on Earthquake, Geological and Structural Engineering, London, 2014.*

19 □ Osman Shallan, Atef Eraky, *Tharwat Sakr*, Abdalla Salama. Optimum Design of Space Tensegrity Dome. *International Journal of Engineering and Innovative Technology (IJEIT) Volume 3, Issue 9, March 2014,* www.ijeit.com/Vol%203/Issue%209/IJEIT1412201403_08.pdf

20 □ Shallan O, *SakrT.A,* Eraky A., Hamdy, O. Optimization of Plane and Space Trusses Using Genetic Algorithms. *International Journal of Engineering and Innovative Technology (IJEIT), Volume 3, Issue 7, Jan. 2014,*

21 □ *Tharwat A. Sakr,* Atef Eraky, Osman Shallan and Sajad Kareem. Seismic Vulnerability of Buildings through Robust Database of Earthquakes and Buildings. *J American Science 2013;9(7):378-385]. (ISSN: 1545-1003).*

http://www.jofamericanscience.org/journals/am-sci/am0907/046_18561am0907_378_385.pdf

22 □ *T.A. Sakr,* H.E. Abd-El- Mottaleb. Elasto-Plastic Behavior of Outrigger Braced Walls. *J American Science;8(12):1230-1238]. (ISSN:1545-1003,) 2012*

23 □ *Sakr, T.A.* Response Of TMD Controlled Framed Buildings To Blast Effect. *The Egyptian International Journal of Engineering Sciences and Technology - Vol.13 - No.1, January 2010.*

24 □ *Sakr, T.A.* The Application of Genetic Algorithm To The Optimization Of Outrigger Braced High Rise Buildings. *Ain Shams Journal of Civil Engineering (ASJCE), Vol. 1.No. 1 ISSN: 1687-8590, March, 2009.*

25 □ Abdel Salam S. S., Shallan O. E., *Sakr T. A.*, Fathy E. Methods To Mitigate Pounding. *Future Sustainable Skycities and Towers in the Present Millennium, The 7th International Conference on Multi-Purpose High Rise Towers and Tall Buildings, Dubai, Dec.2005.*

26 □ Abd-Elsalam S, Shalaan O., *Sakr T.A.,* ElSayed, H. Nonlinear Seismic Analysis of Coupled Shear Walls-Soil Interaction. *Future Sustainable Sky-cities and Towers in the Present Millennium, The 7th International Conference on Multi-Purpose High Rise Towers and Tall Buildings, Dubai, Dec.2005.*

27 □ Abdel Salam S. S., Shallan O. E., *Sakr T. A.,* Fathy E. Pounding influence on adjacent buildings with different dynamic properties. *Proceeding of The Eleventh International Colloquium on Structural and Geotechnical Engineering, Ain Shams University, Cairo, Egypt, May, 2005*

28 □ *Tharwat .A. Sakr.* GENETIC ALGORITHM APPLICATION IN STRUCTURAL ENGINEERING. *Review Article, 2004.*

29 □ *Sakr, T.A.* Modeling of Steel Reinforcement in Nonlinear Static and Dynamic Finite Elements. *AUEG, al Azhar University Engineering Journal, Vol. 3, October 2004.*

30 □ Abd-Elsalam S, Shalaan O. *Sakr T.A.,* ElSayed, H. Behavior of Reinforced Concrete Coupled Shear Walls Under Seismic Excitation. *Ninth Arab Structural Engineering Conference (9ASEC), Abu Dhabi, 2003.*

31 Al-Tuhami A.A. and *Sakr,T.A.* Retrofit of Reinforced Concrete Columns Using Global Lateral External Pressure. *Composites in Construction International Conference (CCC), University of Calabria, Italy, 16-19 September 2003.*

32 El-Shamy E. *Sakr, T.A.* Non Linear Behavior of Stepped Shear Walls. *Second Internationals Specialty Conference on the conceptual approach to structural design. Milan, Italy, 2003.*

33 Abd-Elsalam, S, Shalaan O, *Sakr, T.A.,* ElSayed. H. Earthquake Nonlinear Material Analysis Simulation of Reinforced Concrete Coupled Sheer Walls. *Fourth International Conference on Civil and Architecture Engineering, Military Technical College, Cairo, 2002.*

34 *Sakr T.A*., Sabry A. Ahmed. Seismic Analysis of Buildings with Soft Story", *Fourth Alexandria International Conference on Structural and Geotechnical Engineering, Alexandria, 2001.*

35 Al-Tuhami A.A. and *Sakr T.A.* An Innovative Technique for Strengthening Reinforced Concrete Columns Using Mechanical Confining", *Eight Arabic Conference of Structural Engineering, Cairo, 2000.*

36 Sayed Abd-Elsalam, Sadek A.W., Hany O. Soliman and *Sakr T.A.* Appraisal of Seismic Resistance of Existing Irregular Buildings using Strength and Drift Criteria in the Egyptian Code. *Eight Arabic Conference of Structural Engineering, Cairo, 2000.*

37 Al Thuhami A.A and *Sakr T.A.* Suggested Technique for Strengthening Reinforced Concrete Columns Subjected to Dynamic Loads", *Arabic Conference for Repair and Rehabilitation of Structures, Cairo, Egypt, 1998.*

38 Sadek A.W., El Shihy, A.M. and *Sakr T.A.* Continuous Analysis of Non Collinear Coupled Shear Walls. *Engineering Research Journal, University of Helwan, Vol.2, P.286-299, Egypt, 1995.*

39 Sadek A.W., El Shihy A.M. and *Sakr T.A.* Lateral Load Analysis of Non Collinear Coupled Shear Walls. *Fourth Arab Structural Engineering Conference, Cairo, Egypt, 1991.*

Thesis Supervision

1 *Mohamed Bakr Tag El-din,* Optimization of structural vibration by using multiple TMD and viscoelastic dampers, *M.Sc, 2026*

2 *Shrouk Samy,* Performance-Based Design and Evaluation of Structures According to the Egyptian Construction Practice Condition, *Ph.D, 2026*

3 *Ahmed Ismail.,* Strengthening of reinforced Concrete long Columns, *Ph.D, 2023*

4 *Azza Mahmoud.,* Hybrid Strengthening of reinforced Concrete beams with external post tensioning and FRP, *Ph.D, Ongoing*

5 *Mohamed Shaalan.,* EFFECT OF OPENING IN THE BEHAVIOR OF POST-TENSION FLAT SLAB, *M.Sc, 2021*

6 *Marwah Ahmed.,* Safety of Buildings against Progressive collapse due to abnormal loads, *M.Sc, 2017*

7 *Mohamed Khozam,* Genetic Algorithm and Neural Networks application to Damage Detection of Structures, *M.Sc, 2017*

8 *Jala Esmat*, Sensitivity of building collapse to design methods and structural systems, *M.Sc, 2017*

9 Othman Hamdy, Optimization of Space Trusses Using Genetic Algorithm, *M.Sc.,2015*

10 *Ghada Nashaat*, Analysis of the post tension floors for optimum behavior and economic design, *M.Sc.,2015*

11 *Abdallah Salamah*, Optimum Design of Space Tensegrity Structures, *M.Sc, 2014*

12 *Shaimaa Emad,* Risk Mitigation Of Building Against Blast Loads, *M.Sc, 2014*

13 *Sajad Kareem*, Characterization of Seismic Risk of Structures through Robust Database Framework, *M.Sc, 2013*

14 *Hanaa El-Sayed*, Earthquake Nonlinear Modeling of R.C Buildings Including Foundation Soil Interaction, *Ph.D., 2005.*

15 *Ebtsam Fathy*, Seismic Pounding between Adjacent Buildings with different Dynamic Properties, *M.Sc, 2005*

16 *Hanaa El-Sayed*, Nonlinear Dynamic Analysis of Coupled shear Walls, *M.Sc, 2002*

UNDERGRADUATE & POSTGRADUATE COURSES

1 Structural Analysis

2 Foundation Engineering

3 Structural Dynamics & Earthquake Engineering

4 Computer aided Structural analysis and design

5 Structural analysis using CSI SAP, ETABS, and SAFE

INTERNET COURSES

1 Lectures on Structural Dynamics and Earthquake Engineering
https://www.youtube.com/watch?v=clx-kO2tiOw&list=PLpYNj6NqvLSRrYz2SBDwUD17JGONlm7GF

2 Building Design Using ETABS
https://www.youtube.com/watch?v=NopiaVoTKb0&list=PLpYNj6NqvLSSx-Ljh3OAjUHyGUcs5FTmj

3 Course on Post Tensioned Floor Design and RAM using
https://www.youtube.com/watch?v=HJAZJ8wRwe4&list=PLpYNj6NqvLSTqBsvLGPqvrZfnSFpqSOuw