

Name: Mohamed Ali Krem		
Current Job: Professor at the Academy for Postgraduate Studies, Libya.		
Date/Place of Birth: 1976 - Libya		
Nationality: Libyan	Gender: Male	Marital status: Married
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Address: ALkhla , Tripoli- Libya & Al-khadra, Tarhuna- Libya		
Language Proficiency: Arabic Language (Native) & English Language		



Education

- Ph.D. (2012) – Civil and Environmental Engineering, *University of Massachusetts Amherst, USA*
- M.Sc. (2006) – Civil and Environmental Engineering, *Al-Mergheb University, Al-Khums, Libya*
- B.Sc. (2000) – Civil and Environmental Engineering, *Nasser University, Al-Khums, Libya*

Professional Memberships

- American Institute of Steel Construction (AISC), USA –since 2011
- American Society of Civil Engineers (ASCE), USA –since 2011
- Precast/Prestressed Concrete Institute (PCI), USA –since 2009
- Society of Engineers, Tripoli, Libya – Member (2006–2008)
- Association of Civil Engineers, Tripoli, Libya – Member since 2005
- ACI- American Concrete Institute, USA, since 2011

Professional Experience

Dr. Mohamed Krem is a highly accomplished civil and structural engineer with over two decades of academic and professional experience encompassing design, execution, supervision, and consultancy in infrastructure and building projects. He is known for his strong leadership, analytical capability, and commitment to quality, innovation, and sustainability. He demonstrates exceptional ability to manage both complex and

straightforward engineering tasks efficiently—whether independently or as part of a collaborative team. He maintains excellent interpersonal communication, organizational skills, and decision-making capacity, consistently upholding professionalism and accountability.

Academic Positions

- 2003–2024: Faculty Member, Department of Civil and Environmental Engineering, *Al-Mergheb University, Al-Khums, Libya*
- **Present:** Faculty Member, Department of Civil and Architectural Engineering, *School of Applied Sciences and Engineering, Academy for Postgraduate Studies, Libya*
 - Responsibilities include teaching graduate courses, supervising student research and theses, and contributing to curriculum development.
- 2013–2018: Director, *Technical Research and Consultation Center, Al-Mergheb University*
- 2018–2021: Head, *Consulting Department, College of Engineering, Al-Mergheb University*

Professional Practice and Consultancy

- With extensive experience in civil engineering and project management, Dr. Krem has been directly involved in the planning, design, supervision, and maintenance of a wide range of structural and infrastructure projects. His expertise covers reinforced concrete and steel design, road and pavement engineering, laboratory testing, and quality assurance in both governmental and private sectors.
- He has played a central role in engineering consultancy services, leading design teams for major national projects, managing technical research programs, and providing professional supervision for strategic developments across Libya.

Key Projects and Accomplishments

- Site Engineer – Construction of concrete culverts and roads, *Tarhuna, Libya (2000–2002)*
- Engineer & Site Supervisor – Overhead bridge construction, *Khoms–Tripoli Railway Sector (2001–2003)*
- Site Engineer – Rehabilitation of crane infrastructure, *Misrata Steel Factory Port (2004)*
- Site Supervisor – Construction of oil factory, *Al-Khoms City (2004–2005)*
- Consulting Engineer & Executive Director – *Al-Amal Engineering Consulting Company (2005–2008)*
- Visiting Engineer – with design and supervision team, *Connecticut State Hospital Construction Project, Hartford, USA (2009–2011)*
- Visiting Engineer – Design and supervision of a steel research building, *University of Massachusetts Amherst, USA (2009–2012)*
- Design Team Member – Prestressed concrete beam systems with *Precast/Prestressed Concrete Institute (PCI), USA (2010–2012)*
- Head of Design Team – Development of 12-building project, *Al-Marqab University (2013–2014)*
- Head of Supervision Team – Electronic network infrastructure (LTT Project), *Al-Marqab University (2013–2014)*
- Consulting Engineer – Design and development of steel structures, pavement, HVAC, and control systems, *Almarai Factory, Tripoli (2022)*
- Head of Consulting Team – Comprehensive engineering study for the rehabilitation of the *Coastal Road (Tripoli Street Bridge to Karareem Gate) (2023)*
- Consulting Engineer and Expert – Various public and private sector projects *(2014–present)*
- Designed and supervised over 50 residential buildings and numerous road projects throughout Libya.

Publications and Conference Papers

1. *Effect of Building Morphology on Energy and Structural Performance of High-Rise Office Buildings*. EMI 2011, Boston, Massachusetts, USA.
2. *Energy and Structural Performance of High-Rise Office Buildings*. BEST3 Conference, NIBS, Atlanta, Georgia, USA, April 2012.
3. *Structural Configuration and Building Energy Performance*. ASCE, 2013.
4. *Structural Morphology and Building Energy Performance*. Macrotrend Conference on Energy and Sustainability, Paris, 2013.
5. *Site Layout Planning and Sensitivity of Energy Performance*. AASRC, November 2014.
6. *Site Layout Planning and Sensitivity of Energy Performance*. 9th International Conference, AASRC, Istanbul, Turkey, 2014.
7. *Quantifying the Impact of Passive Design on High-Rise Buildings*. Chicago, Illinois, USA, April 6–9, 2015.

8. *Concepts in the Design of Lateral-Load Systems in High-Rise Buildings to Reduce Operational Energy Consumption*. CCEE 11th, Istanbul, Turkey, June 5–6, 2015.
9. *Chloride Resistance of Engineered Cementitious Composites Containing Palm Oil Fuel Ash*. ICCS 18th, Lisbon, Portugal, June 15–18, 2015.
10. *Built-to-Code Building Envelope Versus Sustainability of High-Rise Building Performance*. Proceedings of CEST, AIJR Publisher, 2018.
11. *Eliminating Dust from Factory Waste in a Sustainable Manner*. ICESD Conference, 2018.
12. *Simple and Sustainable Construction to Save Cost and Time*. CEST Conference, AIJR Publisher, 2018.
13. *Sustainable Cement Mortar Using High-Grinding Glass Waste as an Alternative to Cement*. CEST2, Sabratha, Libya, 2019.
14. *Study of Mechanical Properties of Blast Furnace Slag Aggregate and Its Effect on High-Strength Concrete*. Zliten, Libya, 2015.
15. *Applying Quality Standards for Creative Engineering and Competitive Higher Education*. CEST02, Sabratha University, Libya, 2019.
16. *Effect of Nano-Silica Addition on the Mechanical and Physical Properties of High-Strength and High-Performance Concrete*. *International Journal of Engineering Research*, Sirte University, 2021.
17. *Finite Element Modeling to Study Mixed Structural System Behavior in Terms of Capacity and Sustainability*. ICES, Sirte University, 2024.
18. *Analytic Study of Linear vs. Nonlinear Analysis: Optimum and Sustainable Structural Perspective*. *Sebha University Journal*, 2024.
19. *Comparative Analysis of Optimal vs. Adequate Structural Design in Sustainable Construction*. *International Science and Technology Journal*, 2024.
20. *Comprehensive Analytical Study of Structural Reclamation in Aging Flexible Pavement*. *Alasmarya University Journal of Applied Sciences*, 2025.
21. *A Study to Improve the Rigidity of Beam-to-Column Connections in Reinforced Concrete Frames for Residential Buildings*. *International Science and Technology Journal*, 2025.
22. *Analytical Assessment of Embodied Energy in Building Materials: A Sustainable Structural Design Perspective in the Libyan Context*. *Sebha University Journal*, 2025.
23. *Analytic Modeling to Study the Insolation Heat Gain of Semi-Insulated Buildings in Hot Climates*. *Academy Journal for Basic and Applied Sciences (AJBAS)*(2025).
24. *Advanced Analysis of Mixed Structural Systems: Capacity and Sustainability*, *Libyan Journal of Engineering Science and Technology (LJEST)* Vol. 5, No, 3, 2025

Software and programs Experience:

(1)- ANSYS; (2)- Sap 2000; (3)- ETABS; ; (4)- SAFE (5)- Autodesk Rivet; (6) - Autodesk Ecolect; (7) Autodesk Civil 3D; (8) Autodesk Water CAD; (9) Autodesk Sewer GEMS; (10) Design builder; (11)- MATLAB; (12) Fortran 90; (13)- SPSS; (14)- PLAXIS 3D; (15)- AASHTO Ware Pavement ME Design (PVD) (16)- Synchro, (17)- Micro PAVER (18)- Vehicle Tracking, (19): Others such as Word, PowerPoint, Excel, Visio provisional, Internet.

Teaching Areas

Extensive teaching experience across undergraduate and graduate levels, including:

- Finite Element Analysis
- Advanced Structural Analysis
- Advanced Solid Mechanics
- Structural Stability
- High-Rise Building Design and Analysis
- Advanced Reinforced Concrete Design
- Load and Structural Systems
- Advanced Statistics
- Deep Foundation Analysis and Design
- Pavement Reclamation and Rehabilitation
- Computer Applications in Civil Engineering
- Advanced Non-linear Structural Analysis
- Optimum structural analysis
- Steel structural design

Research Interests

- Sustainable and Green Building Design
- Optimization of Structural Systems for Energy Efficiency
- Sustainable Materials and Construction Techniques
- Finite Element Modeling (Elastic and Plastic Behavior) of Structural Members
- Stress Distribution and Concentration in Structural Systems
- Pavement Engineering: Flexible and Rigid Pavements
- Recycling and Novel Materials in Steel and Concrete Technologies
- High-Rise Structural Systems and Seismic Performance

- Embodied Energy Assessment and Environmental Impact Studies
- Computational Structural Mechanics and Soil-Structure Interaction
- Material and Structural Behavior

Authored Works (in Progress)

1. *Advanced Solid Mechanics* – 65% completed
2. *Sustainability Guidelines in Materials, Structures, and Design* – 60% completed
3. *Sustainability and Green Structural Design Analysis* – 50% completed
4. *Comprehensive Guide to Infrastructure Design and Implementation* – 20% completed

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